

NOBIVAC L4	BE-NLINTVINT-2014-BE-0003	Belgium	Animal	Canine/dog	16 Month(s)	30/10/2014	15/12/2014	1	1	0	30/10/2014	Not Known	Anxiety,Restlessness,Nervous system disorder NOS	Not Known	30 Nov 2014 Veterinarian reports a reaction in a dog a couple of hours after vaccination with Nobivac L4. 30 Oct 2014 Dog has been vaccinated for the 2nd time, with only Nobivac L4. After vaccination (time association not specified) he was restless, anxious, he started into the sky. Treatment: Fluvoxamine (SSRI). Dog is recovering. Dog had a similar reaction after 1st vaccination, with Nobivac L4, and Pneumodog (See case 2014BE00301). Until now no other information available. 15 Dec 2014 Follow-up information Dog is doing very well. Fluvoxamin treatment continues. At this moment no restlessness or convulsions anymore. No evolution to general epilepsy. Reaction occurred the same day. No additional information awaited. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Unknown]	Corso Dog	43	NOBIVAC L4 10X1D5 545 - 1,N/A/N/A,24,1 Dose Once 1 Animal (30/10/2014-30/10/2014) 	A - Probable	Association in time and re-challenge + with one product was used. No other equally plausible explanation
NOBIVAC L4	BE-NLINTVINT-2014-BE-00010	Belgium	Animal	Canine/dog	7 Year(s)	29/11/2014	03/12/2014	1	1	0	29/11/2014	Not Known	Anorexia,Shivering,Hypoglycaemia, Pseudopregnancy behaviour	Not Known	SAR: 3 Dec 2014 Vet notifies reaction in a dog 1 day after vaccination with Nobivac L4. 29 Nov 2014 Dog received booster vaccination with Nobivac L4. 30 Nov 2014 Dog showed shivers and anorexia. No fever. Glucose: 76 mg/dl. Treatment: infusion with glucose. 2 and 3 Dec 2014 Dog behaves strange: nesting behaviour (like pseudopregnancy but no swollen nipples, no milk production) Last estrous period: September. Until now no additional information. 22 Dec 2014 Follow up information: Clinical reference values to be asymptomatic: 100-250mg/dl which indicates that the dog had hypoglycaemia. Vedira code adapted: hypoglycaemia added. Case upgraded from non-serious to serious. No additional information awaited. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Unknown]	Other Carine/dog	Not Known	NOBIVAC L4 10X1D5 545 - 1,N/A/N/A,24,1 Dose Once 1 Animal (29/11/2014-29/11/2014) 	B - Possible	NCA agrees with MAH assessment
NOBIVAC L4	BE-NLINTVINT-2014-BE-00014	Belgium	Animal	Canine/dog	12 - 12 Year(s)	25/10/2014	08/12/2014	1	1	0	18/11/2014	Not Known	Anorexia,Lethargy (see also Central nervous system depression in "Neurological"),Fever,Lack of efficacy,Abnormal test result,Blood in urine,Urine abnormalities NOS,Proteinuria,Haematuria,Bilirub inuria	Not Known	SLEE 8 Dec 2014 Vet notifies signs of Leptospirosis in a dog although vaccinated with Nobivac L4. 20 Sep 2014 Dog vaccinated with Nobivac L4. 18 Nov 2014 Dog shows lethargy, fever (41°C), anorexia, bloody urine. Serology: 1/100 L.Grippotyphosa.(Abnormal test result) PCR urine: negative. No combined sera. Treatment: 2 weeks Amoxicillin/Clavulanic acid. Afterwards (and still at this moment) 3 weeks Doxycycline. Dog is living on the country side. No other information until now. (Same veterinarian notified another dog with lethargy and L.Grippotyphosa/L.Australis serology results 1/100 after vaccination with Nobivac L4. See linked case 2014-BE-00315). 17 Dec 2014 Follow-up information: 25 Oct 2014 Dog received vaccine for the 2nd time. Serology was done 19 Nov 2014. Urine examination was done 21 Nov 2014. Bilirubin: ++ (Ref: -). Proteinuria: 386 (€500mg/l). Haematuria: ++ (Ref: -). Bacteria: +. Erythrocytes/field: 41-80 (Ref: <3) Bacteriology: E.coli. (Urine abnormality) No additional information awaited. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Unknown]	Gordon Setter	29	NOBIVAC L4 10X1D5 545 - 1,N/A/N/A,24,1 Dose Once 1 Animal (25/10/2014-25/10/2014) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment
NOBIVAC L4	BE-NLINTVINT-2014-BE-00030	Belgium	Animal	Canine/dog	Not Known	13/12/2014	14/12/2014	1	1	1	14/12/2014	Not Known	Death	Not Known	14 Dec 2014 Information posted on Facebook, discovered by Dutch colleagues. Owner notifies death of his dog after vaccination with Nobivac L4. According to owner the dog showed all adverse events mentioned in the leaflet and according to owner it is 99% sure that dog died from vaccination. Several attempts to contact owner by phone failed. Until now no further information, no additional information awaited. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Unknown]	Other Carine/dog	Not Known	NOBIVAC L4 10X1D5 545 - N/A/N/A/N/A,N/A Unknown (13/12/2014-13/12/2014) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment
NOBIVAC L4	BE-NLINTVINT-2015-BE-00012	Belgium	Animal	Canine/dog	2 Year(s)	24/11/2014	12/01/2015	1	1	0	24/11/2014	Not Known	Pyelonephritis,Ovarian cyst,Fever,Lack of efficacy,Oedema of the extremities (see also other SOCs for most applicable oedema),Swollen lymph node,Abnormal test result,Interstitial nephritis,Glomerulonephritis,Recumbency,Joint pain,Liver disorder NOS	Not Known	SAR 24 NOV 2014 Dog vaccinated with Nobivac L4. Dog suffered already of some pain at right hind knee. Treatment: Rimadyl (Carprofen) Dog became better. 05 DEC 2014 Blood analysis: Leucocytes 26.5 (6-12) Neutrofil 82.4% (50-63) AP 112(10-50) 06 DEC 2014 Dog couldn't stand up. He showed generalised oedema on front and hind legs. T°C: 40.4. Radiographic examination of the lines: negative. Dog was redirected to the Faculty of Veterinary Medicine Mellebeke. Anamnesis: T°C: 38.9. Local swollen lymphnodes left: Popliteus. Dog only stands up after stimulation. Inflammatory oedema on the 4 legs. No swelling of the joints. Radiographic examination: Mild diffuse pulmonary changes. 07 DEC 2014 Bilateral changes of the kidneys: pyelonephritis, glomerulonephritis, interstitial nephritis. Hypertensivity of the liver: leptospirosis should be included in the differential diagnosis (suggesting acute hepatitis). Right ovarian cysts/follicles. Diagnosis: Fever, inflammatory oedema at the 4 legs (suspicious of vasculitis. Pyelonephritis as underlying cause? Treatment: Tramadol (painkiller oploid) and antibiotics (Baytril + Amoxycylav) 08 DEC 2014 Leptospirosis: antibody titers: L.Canicola: 1/1000 L. Grippotyphosa: 1/500 L. Australis: 1/100 L. Icterohaemorrhagiae: 1/100 22 DEC 2014 Urine analysis: negative for pathogenic bacteria. Protein/creatinine ratio: 1.54 (€0.5) No other abnormalities. Treatment: antibiotics Doxycycline for at least 14days. 12 JAN 2015 Leptospirosis: antibody titers: L.Canicola: 1/500 L. Grippotyphosa: 1/2000 L. Australis: 1/1000 L. Icterohaemorrhagiae: 1/300 Joints still painful. 13 JAN 2015 Joints still painful. Dog goes to orthopedics and receives corticosteroids. No additional information awaited. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Fair]	American Bulldog	35	NOBIVAC L4 10X1D5 545 - 1,N/A/N/A,24,1 Dose Once 1 Animal (24/11/2014-24/11/2014) 	N - Unlikely	First vaccination with the product. The vaccination history has not been provided, but the animal seemed to be vaccinated correctly. The animal would have had a bite of a rat which seems to have occurred before vaccination with Nobivac L4, but the animal had recovered this for several weeks before the clinical signs started. Pre-existing pain in one leg. However, further clinical signs and the seroconversion (Ix and IOn) for groups Grippotyphosa and Australis are highly suggestive for an infection with Leptospires. Due to onset of immunity of 3 weeks (first vaccination with L4) and pre-existing signs, rather N.
NOBIVAC L4	BE-NLINTVINT-2015-BE-00016	Belgium	Animal	Canine/dog	9 Year(s)	11/12/2014	20/02/2015	1	1	0	24/12/2014	Not Known	Anorexia,Spleen hypertrophy,Apathy,Abnormal test result,Decreased red blood cell count,Abnormal red blood cell,Haemolytic anaemia,Thrombocytopenia,Abdominal pain	Not Known	12 Jan 2015 Veterinarian notifies suspicion of Immune Mediated Haemolytic Anaemia in a dog after vaccination with Nobivac DHPI and Nobivac L4. 11 Dec 2014 Dog has been vaccinated with Nobivac DHPI and Nobivac L4. 27 Dec 2014 Suspicion of IMHA (no specific information). Spleen was swollen and has been removed. Results of analysis: nothing abnormal. Treatment: blood transfusion. No information on symptoms or outcome. No investigations for differential diagnosis. Until now no other information, but this is awaited. 9 Feb 2015 Follow-up information received. Nobivac DHPI and Nobivac L4 were injected together. Dog has no history of going abroad and didn't receive other medication. 24 Dec 2014 Dog became sick: anorexia, apathy. Information received from owner) 27 Dec 2014 Dog presented to the veterinarian. Clinical examination: pale mucosae. Cranial abdomen painful. Mass felt in the abdomen. (Spleen?) (Radiographs: Splenomegaly. Echography: Spleen: homogenic mass. Reactive? Bloodanalysis CO.082150: Abnormal test results: RBC 2.61 (5.5-8.5)Hct: 16.4 (37-55) Hgb: 7.1 (12-18) Thrombocytes 108 (175-500) Bloodsmear: spherocytes. Treatment: Bloodtransfusion/Splenectomy. Histology: stowed spleen with a bleeding and rupture of the spleen capsule. According to vet: Diagnosis IMHA. 31 Dec 2014. RBC: 3.8 ; Hct: 25.2; Hgb: 11.2; WBC: 36.12 (5.5-16.9)Neutrofil 26.98 (2-12) 30 Jan 2015: Dog is fully recovered and is doing very well. case closed [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10X1D5 130 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Unknown]	Maltese	8	NOBIVAC DHPI 10X1D5 130 - 1,N/A/N/A,24,1 Dose Once 1 Animal (11/12/2014-11/12/2014) NOBIVAC L4 10X1D5 545 - N/A/N/A/N/A,24,Unknown Unknown 1 Animal (11/12/2014-11/12/2014) 	B - Possible	
NOBIVAC L4	BE-NLINTVINT-2015-BE-00028	Belgium	Animal	Canine/dog	Not Known	20/01/2015	20/02/2015	1	1	1	20/01/2015	Not Known	Diarrhoea,Renal disorder NOS,Death by euthanasia,Anorexia,Weight loss	Not Known	23 Jan 2015 Vet notifies sickness and euthanasia in a dog after vaccination with Nobivac L4. It concerns an adult dog which was vaccinated 3 times in one year. The first time dog was vaccinated with a non-specified bivalent Leptospirosis vaccine. The 2nd and 3rd time he was vaccinated with Nobivac L4 was around 20 Dec 2014 and 20 Jan 2015 (there was one month in between). After the 2nd injection dog became sick. Anorexia, diarrhoea, weight loss. Blood analysis: (According to vet) Results for Leptospirosis (strains not specified) were 10 times above normal. Kidney totally lost. 22 Jan 2015 dog's condition got worse and the dog has been euthanised. Dog has been sent in for autopsy. Results pending. 20 Feb 2015 Follow-up information: No additional information received. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 545 Reason: Vaccination] [State of health: Good]	Other Carine/dog	Not Known	NOBIVAC L4 10X1D5 545 - N/A/N/A/N/A,24,Unknown Twice 1 Animal (20/01/2015-20/01/2015) 	O1 - Inconclusive	

NOBIVAC L4	BE-NLINTVINT-2015-BE-00281	Belgium	Animal	Canine/dog	12 Year(s)	01/02/2015	25/08/2015	1	1	1	01/02/2015	No- No	Tachycardia,Dyspnoea,Death	Other	SAR Veterinarian contacted MSD only 24Aug about mortality due to heart failure of a dog with a cardiac problem 6 months ago after yearly revaccination with DHPI and Lepto according to owner. Presumed Nobivac DHPI and Nobivac L4 3 days later dog was ill with tachycardia and dyspnoea. The dog died 1 week later. According to owner the dog died because as a consequence of the cardiac problem exaggerated with the vaccination reaction. No information on type, duration and seriousness of cardiac problem at moment of vaccination. No information on treatment for cardiac problem before or after vaccination No follow up expected. Case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 130 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Unknown.] [State of health: Poor.]	Other Canine/dog	Not Known	NOBIVAC DHPI 10XIDS 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (01/02/2015-01/02/2015)-BR> NOBIVAC L4 10XIDS 545 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (01/02/2015-01/02/2015)-BR> 	O1 - Inconclusive	
NOBIVAC L4	BE-NLINTVINT-2015-BE-00282	Belgium	Animal	Canine/dog	4 Year(s)	24/08/2015	25/08/2015	1	1	0	24/08/2015	Yes- Yes	Eyelid oedema,Pruritus,Vomiting	No Data	SAR Vet reports swollen eyelids, pruritus, vomiting shortly after vaccination with Nobivac DHPI and Nobivac L4. Treatment with Dexamethason. Recovered. Previous vaccinations (possibly with Vanguard) without problems. Follow up expected. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 130 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Unknown.] [State of health: Unknown]	Shih Tzu	6.5	NOBIVAC DHPI 10XIDS 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (24/08/2015-24/08/2015)-BR> NOBIVAC L4 10XIDS 545 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (24/08/2015-24/08/2015)-BR> 	B - Possible	
NOBIVAC L4	BE-NLINTVINT-2015-BE-00293	Belgium	Animal	Canine/dog	3 Year(s)	28/08/2015	21/09/2015	1	1	0	01/09/2015	Yes- Yes	Pale mucous membrane,Hypotension,Vomiting	No Data	BE-NLINTVINT-2015-BE-00293: SAR Allergic reaction soon (not specified) after vaccination with Nobivac L4. Dog was in perfect health. Symptoms: vomiting, urination, pale mucosae, lethargic. Several organ systems involved, therefore serious. Treatment: rapidexon, dexafort Outcome: after 1 hour the dog was again standing and after 2 hours complete recovery. Dog needs a second vaccination with Nobivac L4 and vet asks what to do. Follow up expected. 7SEP2015 FOLLOW UP. Product: in the morning 3 products injected at the same moment Nobivac DHP, Nobivac L4, Rabislin (Meril). No information on possible mixture of vaccines. Symptoms starting 15 minutes after injection (vomiting, urination, pale mucosae, lethargy, hypotension(new)). Treatment: Rapidexon, Phenergan, Dexafort. Outcome: Recovered in the afternoon, approximately 6 hours later. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Unknown. Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 130 Reason: Prophylaxis Generic: Brand: Rabislin (Meril) [State of health: Good]. Note: Serial 21 Sep 2015. Added V&DORA code 'Anaphylaxis'. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Unknown. Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 130 Reason: Unknown. Generic: Rabislin Brand: Rabislin Reason: Unknown.] [State of health: Good]	Other Canine/dog	Not Known	NOBIVAC DHP 10XIDS 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (28/08/2015-28/08/2015)-BR> NOBIVAC L4 10XIDS 545 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (6 hours) (28/08/2015-28/08/2015)-BR> RABISLIN - 1,N/A/N/A, 24,1 Dose Once 1 Animal (28/08/2015-28/08/2015)-BR> 	A - Probable	
NOBIVAC L4	BE-NLINTVINT-2015-BE-00311	Belgium	Animal	Canine/dog	1.3 Year(s)	19/09/2015	21/09/2015	1	1	0	19/09/2015	Not known-> Not known	Foaming at the mouth,Seizure NOS,Urination,Muscle spasm	Not Known	SAR SEP 2015 Vet reports SAR starting 1 hour after vaccination. Symptoms: 5 epileptiform seizures in the course of 36 hours, occurring at rest. Foaming at the mouth, urination, loss of consciousness, muscle spasm at rest No follow up expected, case closed. 23 SEP 2015 Follow-up received Vaccines administered at room temperature. Dog without a history of epilepsy. Dog treated with Valium 10mg but no effect. Duration of seizures: 3 minutes approx. after a few moments of unsteadiness again normal. In between seizures dog remained anxious and nervous. After 5 seizures dog recovered. case closed [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 130 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Unknown.] [State of health: Unknown]	Border Collie	14	NOBIVAC DHP 10XIDS 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (19/09/2015-19/09/2015)-BR> NOBIVAC L4 10XIDS 545 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (19/09/2015-19/09/2015)-BR> 	O1 - Inconclusive	SAR Temporal association (1 hour), seizure have been reported after postvaccination but link have been not been confirmed - vaccination could trigger an existing anomaly. Multiple products used. Link with any of the products cannot be excluded.
NOBIVAC L4	BE-NLINTVINT-2015-BE-00325	Belgium	Animal	Canine/dog	2 Year(s)	09/04/2015	02/10/2015	1	1	1	19/04/2015	Not known-> Not known	Diarrhoea,Vomiting,Hepatitis,Death	Not Known	SAR 2 oct case reported by referral vet without details: 5 OCT 2015 : Attending Vet reports suspicion of immune-mediated thrombocytopenia 10 days after vaccination with Nobivac DHPI and Nobivac L4. MAR 2015: vaccination with Nobivac DHPI + Nobivac Lepto2 9APR2015: booster with Nobivac DHPI and Nobivac L4 (first vaccination for L4) 19APR2015: dog comes to vet clinic with symptoms: vomiting, diarrhoea, fever 40°C (acute). 22APR2015: diagnosis of acute hepatitis (no details on results of examinations to decide this diagnosis). Dog dies after a few days of infusion therapy. Diagnosis: suspicion of immune-mediated thrombocytopenia (reasons not given) (no details on results of examinations to decide this diagnosis). Follow up requested. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 130 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Unknown.] [State of health: Unknown]	Bernese Mountain Dog	Not Known	NOBIVAC DHPI 10XIDS 130 - 1,N/A/N/A, 24,1 Dose Twice 1 Animal (09/04/2015-09/04/2015)-BR> NOBIVAC L4 10XIDS 545 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (09/04/2015-09/04/2015)-BR> 	O - Unclassifiable/unassessable	NCA agrees with assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00327	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	1	1	0	01/01/2015	Not Known	Myocarditis	Not Known	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This case reports myocarditis at an unknown timeframe post vaccination, unknown breed and age and unknown how the diagnosis was established. No more information expected Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10XIDS 545 - N/A/N/A/N/A, 24,Unknown Unknown (01/01/2015-01/01/2015)-BR> 	O - Unclassifiable/unassessable	NCA agrees with the assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00329	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	1	1	0	01/01/2015	No	Nephropathy	Other	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This dog had pre-existing nephropathy and reports nephropathy at an unknown timeframe post vaccination, unknown breed and age and unknown how the diagnosis was established. No more information expected Case closed [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10XIDS 545 - N/A/N/A/N/A, 24,Unknown Unknown (01/01/2015-01/01/2015)-BR> 	O - Unclassifiable/unassessable	NCA agrees with the assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00330	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	1	1	0	01/01/2015	No	Pericarditis	Other	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This case reports (suspected pre-existing) pericarditis in a dog that got much worse after vaccination, unknown breed and age and unknown how the diagnosis was established. No more information is expected. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10XIDS 545 - N/A/N/A/N/A, 24,Unknown Unknown (01/01/2015-01/01/2015)-BR> 	O - Unclassifiable/unassessable	NCA agrees with the assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00331	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	2	2	0	01/01/2015	Not Known	Pneumonitis	Not Known	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This case reports pneumonitis in 2 dogs at an unknown timeframe post vaccination, unknown breeds and ages and unknown how the diagnosis was established. No more information expected Case closed [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10XIDS 545 - N/A/N/A/N/A, 24,Unknown Unknown (01/01/2015-01/01/2015)-BR> 	O - Unclassifiable/unassessable	NCA agrees with the assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00332	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	1	1	0	01/01/2015	Not Known	Injection site lesion,Lymphocytosis	Not Known	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This case reports an injection site lesion and very pronounced lymphocytosis at an unknown timeframe post vaccination, unknown breed and age and unknown how the diagnosis was established. No more information expected Case closed [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10XIDS 545 - N/A/N/A/N/A, 24,Unknown Unknown (01/01/2015-01/01/2015)-BR> 	B - Possible	Even though information lacks in this case (time to onset, type of focal reaction), an anatomical relationship with vaccination is given. The lymphocytosis is unexplained. Overall ABON B.
NOBIVAC L4	BE-NLINTVINT-2015-BE-00333	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	1	1	0	01/01/2015	Not Known	Liver disorder NOS	Not Known	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This case reports liver disease at an unknown timeframe post vaccination, unknown breed and age and unknown how the diagnosis was established. No more information expected Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10XIDS 545 - N/A/N/A/N/A, 24,Unknown Unknown (01/01/2015-01/01/2015)-BR> 	O - Unclassifiable/unassessable	NCA agrees with the assessment of MAH

NOBIVAC L4	BE-NLINTVINT-2015-BE-00334	Belgium	Animal	Canine/dog	Not Known	01/01/2015	29/09/2015	1	1	1	01/01/2015	Not Known	Death	Not Known	SAR During a visit to a referral vet on 29 Sep 2015, she reported multiple reactions in multiple dogs, due to Nobivac L4 in her opinion, recorded in cases 2015-BE-00327, 329, 330, 331, 332, 333 and 334. The reactions often appeared after the second vaccination (booster). The vet is not inclined to cooperate and the information is very scarce. This case reports death at an unknown timeframe post vaccination, unknown breed and age, unknown circumstances. No more information expected Case closed [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A, 24, Unknown Unknown 01/01/2015-01/01/2015>BR>BR>	O - Unclassifiable/unassessable	NCA agrees with the assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00346	Belgium	Animal	Canine/dog	6.5 Year(s)	08/09/2014	08/11/2015	1	1	0	31/10/2014	Not Known, >BR> Not Known	Injection site lump,skin and/or appendage neoplasm NOS	Not Known	33OCT SAR vet reports suspicion of mastocytoma in a dog vaccinated >1 year ago with Nobivac DHP & Nobivac L4 by another vet. Few weeks later (31OCT2014) dog developed local reaction at injection site (right flank according to owners. Lump is at the level of the penis, not a usual injection site, swelling slowly growing over the year. diameter 2.5-3 cm. Cytology: Mastocytes, fibroblasts, neutrophils. Histopathology pending. Follow up expected. Follow up 8 November 2015 Histopathology results: MEDNET 1083085 Mast cell tumor (MCT), subcutaneous, Pitkin grade II, Nugal low grade, MI <1 per 10 HPFs. The tumor exhibits low mitotic activity with no evidence of megalokaryosis or multinucleated cells, which has been associated with better prognosis. Metastases are uncommon for subcutaneous MCT's (<8% of cases). The association with the vaccination is coincidental. No follow up expected case closed [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10X1DS 130 Reason: Prophylaxis. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Unknown.] [State of health: Unknown]	American Staffordshire Terrier	45	NOBIVAC DHP 10X1DS 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (08/09/2014-08/09/2014) NOBIVAC L4 10X1DS 545 - 1,N/A/N/A, 24,1 Dose Twice 1 Animal (5 Weeks) 08/09/2014-13/10/2014) 	N - Unlikely	
NOBIVAC L4	BE-NLINTVINT-2015-BE-00347	Belgium	Animal	Canine/dog	12 Year(s)	05/05/2015	09/11/2015	1	1	1	01/10/2015	No, R> Not Known	Death by euthanasia,Lack of efficacy	Not Known	SLEE for Lepto 13 Oct 2015 vet reports Leptospirosis in a dog vaccinated with Nobivac L4. Last year (date not specified) primovaccination with Nobivac L4: 2 injections with 3 weeks interval. Booster in May 2015. History of previous Lepto vaccination unknown. Date not specified (presumed October), dog presented with fever, anemia, dark urine. Positive for L. grippityphosa. Reports of examinations not available. Treatment: Doxycycline, dog improved and recovered. Follow up expected. 28 OCT Follow up 2 vaccines used simultaneously: (ELU for DHPPI) results of examinations 1391462 Haematology: Increased liver enzymes (Transaminase GPU/ l) 75 (42); Alkaline phosphatase UI/ l 665 (4-100), Creatin mg/ l 128 (5-15), Uream g/ l 4,25 (0.25-0.75) (37-55) Leica's 28480:MM3 (6000-15000) Urine: proteins 0.73 g/ l (<0.15) Serology:1/300 L. grippo case closed Follow up 9 November 2015 The dog had relapsed and was euthanised. The autopsy report revealed Multiple stomach ulcers in the pylorus, with haemorrhagic nature. Colon, cecum: black content Pancreas : multiple nodules firm, irregular variable size. Conclusion: pancreatic tumors no follow up expected case closed [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Prophylaxis. Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 130 Reason: Unknown.] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC DHPPI 10X1DS 130 - N/A/N/A/N/A, N/A/N/A (05/05/2015-05/05/2015) NOBIVAC L4 10X1DS 545 - 1N/A/N/A, 24,1 Dose Once 1 Animal (05/05/2015-01/05/2015) 	N - Unlikely	NCA agrees with assessment of MAH ; Death by euthanasia was added
NOBIVAC L4	BE-NLINTVINT-2015-BE-00348	Belgium	Animal	Canine/dog	3 Month(s)	07/10/2015	28/10/2015	1	1	0	07/10/2015	Yes, R> Not Known, >BR> Not Known	Diarrhoea,Vomiting,Apathy	Not Known	SAR 14 Oct vet reports more adverse reactions after vaccination with Nobivac DHPPI and Nobivac L4. Symptoms: vomiting, diarrhoea, apathy. 2 dogs had to be hospitalised. Dates of vaccination and start of symptoms unknown. Follow up expected 28 OCT 2015 follow up 3 vaccines used the same moment: Nobivac L4, Nobivac Rabies, Nobivac BbP Only 1 dog with vomiting, apathy, hospitalisation involved, treated with perfusion. Reaction starting 2 hours after vaccination. Dog recovered around 8 Oct. case closed [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Prophylaxis. Generic: RABIES IN ALU ADJUVANT LV Brand: NOBIVAC RABIES 10X1DS 130 Reason: Prophylaxis. Generic: BB CANINE / P/ LB/ LV Brand: NOBIVAC BBP 5X1DS-5X1DS DIL 130 Reason: Prophylaxis] [State of health: Unknown]	Golden Retriever	Not Known	NOBIVAC BBP 5X1DS-5X1DS DIL 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (07/10/2015-07/10/2015) NOBIVAC L4 10X1DS 545 - 1N/A/N/A, 24,1 Dose Once 1 Animal (07/10/2015-07/10/2015) NOBIVAC RABIES 10X1DS 130 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (07/10/2015-07/10/2015) 	B - Possible	NCA agrees with assessment of MAH
NOBIVAC L4	BE-NLINTVINT-2015-BE-00357	Belgium	Animal	Canine/dog	Not Known	01/10/2015	23/10/2015	1	1	0	01/10/2015	Not Known	Epilepsy	Not Known	SAR 23OCT2015 Report from Veterinarian about suspicion of epileptic crisis in a dog vaccinated with Nobivac L4. No other information available. Follow up expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A, 24, Unknown Unknown Unknown (01/10/2015-01/10/2015) 	O - Unclassifiable/unassessable	Unknown time relationship between vaccination and sign, not clear how the diagnosis is established and patient details currently not clear, awaiting more information. ABRN O for now.
NOBIVAC L4	BE-NLINTVINT-2015-BE-00366	Belgium	Animal	Canine/dog	11 Year(s)	24/09/2015	28/10/2015	1	1	1	24/09/2015	Not Known	Unexplained death	Not Known	28 Oct 2015 Veterinarian reports death of a dog after vaccination with Nobivac L4. 24 Sep 2015 Dog is vaccinated with Nobivac L4. 2 hours later, dog died. No further information available. Case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination] [State of health: Unknown]	Miniature Schmauer	Not Known	NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A, 24, Unknown Unknown Once 1 Animal (24/09/2015-24/09/2015) 	O1 - Inconclusive	Close association in time. Individual hypersensitivity reaction cannot be excluded. No information on health status of the dog at the moment of vaccination. No necropsy report was provided
NOBIVAC L4	BE-NLINTVINT-2015-BE-00391	Belgium	Animal	Canine/dog	Not Known	01/01/2015	23/11/2015	1	1	0	01/01/2015	Not Known	Epileptic seizure	Not Known	SAR. 23 NOV 2015 Vet reports epileptiform seizures in a dog vaccinated with Nobivac L4. Unknown interval between vaccination and start of suspected epileptiform seizures, duration and number of seizures. No information on history or other treatments. No information on examinations for differential diagnosis. Outcome unknown. Follow up expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A, 24, Unknown Unknown Unknown (01/01/2015-01/01/2015) 	O - Unclassifiable/unassessable	Unknown temporal association. No information on history, type and duration. No examination for differential diagnosis. Insufficient information available at this moment to draw a conclusion, therefore O. Follow up expected
NOBIVAC L4	BE-NLINTVINT-2015-BE-00392	Belgium	Animal	Canine/dog	8 Year(s)	17/09/2015	23/12/2015	2	2	1	28/10/2015	Not Known, R> Not Known	Diabetes,Drinking a lot,Death by euthanasia,Weight loss	Not Known	SAR 21 Nov Vet asks if there is a possible link between vaccination with Nobivac L4 and suspicion of diabetes in 2 dogs from the same litter. He doesn't think so but the owners are sure and ask for explanation. Insufficient information currently available concerning diagnosis, interval, history, treatment, outcome. Follow up expected. 23DEC Follow up received 17SEP2015 Boostervaccination: 2 vaccines used Nobivac DHPPI + Nobivac L4 28OCT2015 dog drinks more and loses weight. 1 dog/glycemia 420. on treatment with Caninsulin and recovered. 1 dog Glycemia 391. Dog was treated with Caninsulin (dose unknown) but owners preferred euthanasia 1 dog euthanised 26NOV2015. CASE TO BE SPLIT IN 2 24DEC2015 case split to 2015BE422 with information about 1 euthanised dog. 1 dog on caninsulin and recovered remains in this case. 6JAN2016 related case 2015BE422 deleted after all information was again entered in this case. No follow up case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination. Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 130 Reason: Vaccination.] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC DHPPI 10X1DS 130 - 1,N/A/N/A, 24,1 Dose Not applicable 1 Ampule (17/09/2015-17/09/2015) NOBIVAC L4 10X1DS 545 - 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (17/09/2015-17/09/2015) 	N - Unlikely	For the moment, no reports to confirm the link between vaccine and diabetes. NCA agrees with the assessment of MAH
NOBIVAC L4	BE-UKPFI2AH-2014-BE-00092	Belgium	Animal	Canine/dog	2 Year(s)	21/08/2014	30/09/2014	1	1	1	22/08/2014	Yes, R> Yes	Intestinal congestion,Vomiting,Death,Anorexia	No Data	On 21AUGUST2014 dog was vaccinated with Vanguard Dazjg-CPV and Nobivac L4 (two separate injections, two different places). On 22AUG2014, the dog started vomiting and became anorectic. On 23AUG condition got worse and veterinarian performed laparotomy: hemorrhagic content was present in the abdomen, hyperemic intestines and necrotic lesions on small intestines. On 25AUG the dog died. Follow-up on 30SEP2014 - FAGG assessment - O1. [Reason for use for product: Generic: CANINE ADENOVIRUS TYPE 2, STRAIN MANHATTAN, 12-13-76; CANINE DISTEMPER VIRUS, ST Brand: VANGUARD DAZJG-CPV Reason: Prophylaxis. Generic: Brand: Nobivac L4 - MSD Reason: Vaccination] [State of health: Unknown]	Dobermann	38	Nobivac L4 - MSD - 1,N/A/N/A, 24,1 Dose Once 1 Animal (21/08/2014-21/08/2014) VANGUARD DAZJG-CPV - 1,N/A/N/A, 24,1 Dose Once 1 Animal (21/08/2014-N/A) 	O1 - Inconclusive	

NOBIVAC L4	BEL-MERCKMSD-2017-BE-00343	Belgium	Animal	Canine/dog	14 Month(s)	01/10/2017	16/10/2017	1	1	1	01/10/2017	No. R No	Death,Lack of efficacy	Unauthorised dosage; other	Case received from BE NCA: BE-FAGG-DVV-N2017-442. Suspected lack of expected efficacy. 22 SEP 2017 Veterinarian notifies leptospirosis and death in a dog after vaccination with Nobivac L4. 2016 (approx) At 8 weeks of age, dog received its first Nobivac L4 vaccination. 2017 (approx) Dog receives the rapid-vaccination. 7 days after injection, symptoms started. examinations were performed (not specified) which, according to vet, confirmed Leptospirosis, 4 days later, dog dies. No autopsy performed, no serological examination performed. According to veterinarian, based on available date he could not know the cause of the events. Additional information awaited. Follow up information received that no company product was used (the product that was administered was Versican instead of Nobivac L4). By default, since no information was provided, it was considered that the product administered was Versican Plus L4. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination Generic: LEPTOSPIRA INTERROGANS SEROVAR ICTEROHAEMORRHAGIAE, STRAIN MSLB 1089; LEPTOSPIRA BRAND: VERSICAN PLUS L4 Reason: Vaccination] [State of health: Unknown]	Corso Dog	Not Known	NOBIVAC L4 10X1DS 545 - N/A/N/A/1,Days,N/A,Unknown 1 Days 1 Animal (01/01/2017- N/A) VERSICAN PLUS L4 1,N/A/N/A,24,once (01/01/2017- N/A) 	N - Unlikely	The product was not used
NOBIVAC L4	BEL-MERCKMSD-2017-BE-00367	Belgium	Animal	Canine/dog	2 Month(s)	01/10/2017	19/10/2017	1	1	0	01/10/2017	Not Known, > Not Known	Allergic oedema	Not Known	12 OCT 2017 Veterinarian notifies an allergic reaction in a dog after vaccination with Nobivac DHP and Nobivac L4. OCT 2017 Dog is vaccinated with Nobivac DHP and Nobivac L4. Dog developed serious oedema. (Association in time unspecified). Dog has been treated by the veterinarian and recovered. Additional information awaited. 19 OCT 2017 Follow up from technical support. Event narrative updated. No information if breathing was restricted or not. According to her talk to the veterinarian it concerned a typical swelling which is often seen in puppies after vaccination. No information if vaccines were mixed or not. Additional information awaited. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10X1DS 130 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination] [State of health: Unknown]	Chihuahua	Not Known	NOBIVAC DHP 10X1DS 130 - N/A/N/A/N/A,24,Unknown Not applicable 1 Animal (01/10/2017-01/10/2017) NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A,24,Unknown Unknown 1 Animal (01/10/2017-01/10/2017) 	B - Possible	Association in time (unspecified). Oedema (unspecified) can occur as part of an anaphylactic reaction. Two vaccines were used. According to the veterinarian, it concerned a typical swelling which is often seen in puppies after vaccination.
NOBIVAC L4	BEL-MERCKMSD-2017-BE-00368	Belgium	Animal	Canine/dog	3 Month(s)	11/10/2017	16/01/2018	1	1	0	13/10/2017	Not Known, > Not Known	Dyspnoea,Nasal discharge,Cough	Not Known	On 15 OCT 2017, the veterinarian notifies respiratory symptoms after vaccination with Nobivac DHPPI and Nobivac L4. On 11 OCT 2017, the Dog was vaccinated with Nobivac DHPPI and Nobivac L4. On 13 OCT 2017, the Dog was hospitalised at the veterinary clinic showing cough, dyspnea and mucopurulent nasal discharge. The Dog was bought in a pet shop. Additional information awaited. (PV doc) 15JAN2018 Follow-up information received: Changes: product screen for gaininval/event narrative see below Veterinarian didn't fill in the PV-document because she doesn't think that the vaccine is the cause of the symptoms. She thinks that the puppy was already infected and in the incubation-period. The dog was treated and was ok after that. No additional information awaited. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 130 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination] [State of health: Unknown]	Cavaller King Charles Spaniel	Not Known	NOBIVAC DHPPI 10X1DS 130 - N/A/N/A/N/A,24,Unknown Not applicable 1 Animal (11/10/2017-11/10/2017) NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A,24,Unknown Unknown 1 Animal (11/10/2017-11/10/2017) 	01 - Inconclusive	NCA agrees with the MAH assessment
NOBIVAC L4	BEL-MERCKMSD-2017-BE-00370	Belgium	Animal	Canine/dog	4 Month(s)	27/09/2017	15/03/2018	1	1	0	01/10/2017	Not Known, > Not Known	Facial oedema,Anaphylactic shock,Apathy	Not Known	SAR 19 OCT 2017 Veterinarian reported a case of an anaphylactic shock following the injection of NOBIVAC DHP and NOBIVAC L4 in a puppy. 27 SEPT 2017 (approx) The dog swelled severely in the face within one hour after the injection and was severely apathic. Treatment: prednisolone injection. Case not closed. Additional information awaited. 15MAR2018 No additional information received or awaited. Case closed. 28MAR2018 Follow up: Changes in Event Narrative (text and dates of Veddra). Patient (recovery) and product screen (date of treatment): OCT 2017 (approx) The dog swelled severely in the face within one hour after the injection and was severely apathic. Treatment: prednisolone injection whereafter the dog recovered (unspecified date). [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10X1DS 130 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 545 Reason: Vaccination] [State of health: Unknown]	Pug	Not Known	NOBIVAC DHP 10X1DS 130 - N/A/N/A/N/A,24,Unknown (01/10/2017-01/10/2017) NOBIVAC L4 10X1DS 545 - N/A/N/A/N/A,24,unknown (27/09/2017-27/09/2017) 	B - Possible	NCA agrees with the MAH assessment
NOBIVAC L4	BEL-MERCKMSD-2017-BE-00398	Belgium	Animal	Canine/dog	18 Month(s)	04/11/2017	26/02/2018	1	1	0	07/11/2017	Not Known, > No	Injection site inflammation,Injection site swelling,Injection site pain,Leucocytosis,Lymphocytosis,Neutrophilia,Lethargy (see also Central nervous system depression in 'Neurological'),Abnormal test result,Localised oedema (not application site),Abnormal ultrasound finding	Other	SAR 08 NOV 2017 Veterinarian reports a severe swelling at the level of the injection site in a dog after vaccination with NOBIVAC L4 and Nobivac BBP. 01 NOV 2017 A dog was vaccinated with Nobivac L4 and Nobivac BBP. 07 NOV 2017 Veterinarian observed a severe swelling (diameter 20 cm) at the level of the injection site just behind the arch of the ribs on the left side of the body. It is really painful. First the vet thought about a gastric torsion (location and started after eating). Tests: Blood test: no abnormalities RX: Big stomach but no torsion. The vet inserted a gastro-oesophageal tube to be sure: food was removed, swelling did not decrease. Punction of the swelling: bloody fluid Ultrasound: "reactive image" at the skin, but not deeper in the abdomen Treatment: injection of antibiotics, anti-inflammatory medicines. Dog stayed at the clinic. 08 NOV 2017: Swelling decreased a little bit but was still manifest. Dog is still really sensible. Prominent oedema little bit lower at the thorax. Dog eats and drinks good. Went home. 08 NOV 2017 Veterinarian reports that recently 5 to 6 dogs reacted after vaccination with Nobivac L4 (no more information about this dogs at the moment, additional information requested) Additional information awaited. Case not closed yet. 15 NOV 2017 Follow-up information received. Additional information has been added to: - product screen: experience: The dog has never reacted before to a medicinal product. - VedDRA coding: lethargy added; Dates updated. - event narrative: additional information: The dog was more quite after the reaction, no other symptoms detected except the huge swelling. It was the first time that the vaccine was administered subcutaneously in the flank (in this dog). Before it was administered subcutaneously in the neck (other vet). The vaccine is administered cold (not warmed up after fridge), everytime with a new needle and a new syringe (SC). The dog received antibiotics and NSAIDs for several days. The swelling is gone now. No additional information awaited. Case closed. 26FEB2018 Additional information received: report veterinarian Changes: patient screen, event narrative (Veddra: add lymphocytosis, neutrophilia, leucocytosis, injection site inflammation). 07NOV2017: Dog was presented at the veterinarian with a swollen belly and flank at the left side. Dog was eating. Swelling appeared fast after eating. No other symptoms, no vomiting. Vet thought about stomach dilatation. Diagnosis: punction with needle: no gas, no fever, normal mucosae; RX: no dilatation or torsion; Echo: swollen soft tissue, subcutaneous, not abdominal; blood: leukocytosis, lymphocytosis, neutrophilia. Diagnose: severe inflammatory reaction in muscle and subcutaneous tissue due to vaccination (Veddra: injection site inflammation).	Dogue de Bordeaux	55	NOBIVAC BBPI 5X1DS+5X1DS DIL 130 - N/A/N/A/N/A,24,Unknown Not applicable 1 Animal (04/11/2017-04/11/2017) NOBIVAC L4 10X1DS 545 - 1,N/A,N/A,10,1 ml (04/11/2017-04/11/2017) 	A - Probable	The CA agrees on the assessment of the MAH.

NOBIVAC L4	CHE-MERCKMSD-2016-CH-00042	Switzerland	Animal	Canine/dog	9.5 Year(s)	30/03/2016	05/04/2016	1	1	1	0	30/03/2016	Yes; Yes	Diarrhoea,Vomiting,Epileptic seizure,Abnormal breathing,Anaphy,Allergic pruritus	No Data	SAR: dog was vaccinated with Nobivac DHPII and Nobivac Lepto6 on 30.Mar.2016 and started to react to the vaccination while still being in the clinic with apathy, then showed seizures with defecation and urination, vomited and increased breathing. The dog was treated with cortisone and stayed there for a couple of hours. The next day the dog had pruritus all over the body, vomited again and had diarrhoea. Two to three days later, the dog recovered. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Good]	Toy Poodle	Not Known	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 1 Animal (30/03/2016-30/03/2016) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 1 Animal (30/03/2016-30/03/2016)
NOBIVAC L4	CHE-MERCKMSD-2016-CH-00085	Switzerland	Animal	Canine/dog	8 Year(s)	17/05/2016	19/05/2016	1	1	1	0	17/05/2016	Yes; Yes	Dyspnoea,Abnormal radiograph finding	No Data	SAR: On 17 May 2016 the dog was for an echocardiography at the vet, which revealed a mitral insufficiency, which was still compensated but the left atrium was heavily enlarged. After the ultrasound the dog was vaccinated with Nobivac DHPII and Nobivac Lepto 6 for the first time (was not vaccinated for some years). While still being at the vet, the dog started to show heavy breathing, mostly expiratory dyspnoea, which was treated with prednisolone, oxygen, infusion and furosemide. X-rays after one hour showed a diffuse interstitial lung pattern. The dog improved slowly and was released from the clinic on 19.May.2016. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Fair]	Chihuahua	3.6	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 1 Animal (17/05/2016-17/05/2016) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 1 Animal (17/05/2016-17/05/2016)
NOBIVAC L4	CHE-MERCKMSD-2016-CH-00134	Switzerland	Animal	Canine/dog	3 Month(s)	30/05/2016	11/07/2016	1	1	1	18/06/2016	Yes; Yes	Lack of efficacy,Death by euthanasia	No Data	Suspected lack of expected efficacy: Dog was vaccinated with Nobivac DHPII and Nobivac Lepto6 on 30.May.2016 for the second time (first vaccination on 3.May.2016) and was presented to the vet on 18.Jun.2016 because of vomiting and diarrhoea. Treatment with Cerenia and antibiotics was done, but condition worsened. On 19.Jun.2016 the dog showed azotemia, hyperkalemia, thrombocytopenia and anaemia and the vet had the suspicion of leptospirosis (no diagnostic done). Furosemide and infusion was added, but dog was euthanized the next day. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Good]	Labrador Retriever	12.5	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 1 Animal (30/05/2016-30/05/2016) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 1 Animal (30/05/2016-30/05/2016) 	
NOBIVAC L4	CHE-MERCKMSD-2016-CH-00179	Switzerland	Animal	Canine/dog	3 Month(s)	06/09/2016	09/09/2016	1	1	1	0	06/09/2016	Yes; Yes	Abnormal breathing,Facial edema,Anaphylactic shock,Shaking	No Data	SAR: Dog was vaccinated with Nobivac DHPII and Nobivac Lepto 6 on the 6.Sep.2016. Within hours dog showed signs of shock, swollen mucous membranes, increased breathing and shaking. Dog was treated with Prednisolon and Dexamethason and recovered within hours. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Good]	Chihuahua	1.2	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (06/09/2016-06/09/2016) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (06/09/2016-06/09/2016)
NOBIVAC L4	CHE-MERCKMSD-2016-CH-00221	Switzerland	Animal	Canine/dog	3 Month(s)	10/11/2016	22/11/2016	1	1	1	0	10/11/2016	Yes; Yes	Urticaria	No Data	Suspected adverse reaction: Dog was vaccinated with Nobivac DHPII and Nobivac Lepto 6 on 10 Nov 2016 and developed facial urticaria after 15 minutes. Dog was treated with Dexamethasone and recovered quickly. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (10/11/2016-10/11/2016) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (10/11/2016-10/11/2016)
NOBIVAC L4	CHE-MERCKMSD-2016-CH-00227	Switzerland	Animal	Canine/dog	3 Month(s)	22/11/2016	23/11/2016	6	1	1	1	22/11/2016	Yes; Yes	Abnormal necropsy finding,Sudden death,Injection site inflammation	No Data	Suspected adverse reaction: A normal puppy was vaccinated with Nobivac DHPII and Nobivac Lepto6 on 22.Nov.2016. One hour later the owner came back to vet because dog died suddenly. Histopathology will be made, follow up pending. Follow up 30.Nov.2016 Pathology/histology: stasis and leakage of neutrophils in the lung (sign for sepsis), anaphylaxis not excluded, Injection site mild inflammation, no signs for infection. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Good]	Miniature Schnauzer	Not Known	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (22/11/2016-22/11/2016) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (22/11/2016-22/11/2016)
NOBIVAC L4	CHE-MERCKMSD-2017-CH-00003	Switzerland	Animal	Canine/dog	3 Month(s)	11/01/2017	12/01/2017	1	1	0	11/01/2017	Yes; Yes	Vomiting,Weakness,Reluctant to move,Apathy	No Data	Suspected adverse reaction: case report by the competent authority (IV): dog got vaccinated with Nobivac DHPII and Nobivac Lepto6 on 11.Jan.2017 and vomited several times about 30 minutes after the vaccination, was weak on the legs and apathic. Back at the vet the dog wouldn't want to move, but circulation, temperature, mucous membranes were normal. It was treated with Dexamethason and improved quickly, about 90 minutes later the dog was almost normal. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Unknown]	Australian Shepherd Dog	Not Known	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (11/01/2017-11/01/2017) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (11/01/2017-11/01/2017) 	
NOBIVAC L4	CHE-MERCKMSD-2017-CH-00023	Switzerland	Animal	Canine/dog	8 Week(s)	17/02/2017	02/03/2017	4	1	1	18/02/2017	Yes; Yes	Pharyngeal oedema,NT - acute (interstitial) pneumonia/pleuropneumonia,Anapylactoid reaction,Anaphylactic shock,Sudden death	No Data	Suspected adverse reaction: 4 puppies (Entlebucher Sennenhund) were vaccinated on 17.Feb.2017 with Nobivac DHPII and Nobivac Lepto 6 for the first time. During the following night (approx 10 hours after the vaccination) one puppy was found dead without showing any symptoms before. Pathology will be made. Follow up pending. Follow up 02.Mar.2017: results from pathology: eggclotted edema and interstitial pneumonia compatible with an acute shock/anaphylactic reaction and systemic inflammatory response syndrome. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination] [State of health: Good]	Other Canine/dog	Not Known	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (17/02/2017-17/02/2017) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (17/02/2017-17/02/2017) 	
NOBIVAC L4	CHE-MERCKMSD-2017-CH-00050	Switzerland	Animal	Canine/dog	Not Known	13/03/2017	22/03/2017	1	1	0	13/03/2017	Yes; Yes	Pale mucous membrane,Anaphylactic shock,Low blood pressure	No Data	Suspected adverse reaction: dog was vaccinated with Nobivac Lepto6 and Nobivac Pi on 13.Mar.2017 and had signs of an allergic shock (low blood pressure, pale mucous membranes) about 30 minutes later. The dog was treated with cortisone and infusion and recovered within one hour. Case from the same clinic as cases 2017-CH-00036-38. No more information expected. [Reason for use for product: Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI 10X1DS 440 Reason: Vaccination] [State of health: Good]	Shih Tzu	Not Known	NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (13/03/2017-13/03/2017) NOBIVAC PI 10X1DS 440 - 1,N/A,N/A ,24.1 Dose Not applicable 1 Animal (13/03/2017-13/03/2017) 	
NOBIVAC L4	CHE-MERCKMSD-2017-CH-00125	Switzerland	Animal	Canine/dog	Not Known	01/08/2013	24/07/2017	48	16	2	01/08/2013	Yes; Yes	Injection site swelling,Depigmentation of nasal plane,Inappropriate urination,Tenesmus,Diarrhoea,Vomiting,Lameness,Epilepsy,Trembling,Panting,Cough,Skin sarcoma NOS,Death by euthanasia,Decreased appetite,Lack of efficacy,Loss of condition,Monoparesis (paralysis of limb),Injection site pain	No Data	Case from scientific literature: Spiri, A.,Rodriguez-Campos, S et al. Clinical, serological and echocardiographic examination of healthy field dogs before and after vaccination with a commercial intranasal canine vaccine. BMC Vet Res 2013;13:138. Goal: Serology was to investigate clinical signs, MAT titres, haematology, blood biochemistry, cardiac (c) Troponin I levels and echocardiography. 48 healthy dogs were prospectively enrolled and vaccinated twice, 3-4 weeks apart. Results: SARs: Mild, transient clinical signs within 5d of 1st and 2nd vaccination occurred in 23% and 10% of the dogs (local discomfort, local swelling, lameness, vomiting, periania, reduced appetite, reduced general condition); signs observed more than 5d after vaccination: vomiting, diarrhea, doggemten nasal planum, panting, trembling, coughing, focal epilepsy, tenesmus, 2 deaths (due to sarcoma 137d post vac and monoparesis 340d post vac, both unrelated to vaccination according to the authors). SLEE Before first vaccination, all dogs were seronegative for the tested serovars except Canicola. At 2nd vaccination, positive MAT titres to Canicola (100%), Australis (89%), Grippo (86%), Bratislava (60%), Autumnalis (58%), Copenhagen (42%), Pomona (12%), Pyrogenes (8%) and Cereus (2%) were found. Median to high titres (>400) were most common to Canicola (92%) and less common to Australis (41%), Grippo (21%), Bratislava (12%), Autumnalis (4%), Pyrogenes (4%) and Pomona (2%). About 1 year later, positive titres were found in 2-18% of the dogs to vaccinal serovars and in 2-18% of the dogs to the non-vaccine serovars Pomona, Autumnalis, Pyrogenes and Ballum. Haematology, biochemistry, cTroponin I and echocardiography results did not change significantly after vaccination. Follow up 24 Jul 2017: of the 48 dogs, 16 were also vaccinated with Nobivac DHPII (1st vaccination) and 3 (at 2nd vaccination), 10 with Nobivac Pi at the first, 1 at 2nd vaccination. It is unknown which dogs reacted. [Reason for use for product: Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC LEPTO 6 10X1DS 440 Reason: Vaccination Generic: DHPII LV Brand: NOBIVAC DHPII 10X1DS 440 Reason: Vaccination Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI 10X1DS 440 Reason: Vaccination] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC DHPII 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 4 Weeks 1 Animal (01/08/2013-01/05/2015) NOBIVAC LEPTO 6 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 4 Weeks 1 Animal (01/08/2013-01/05/2015) NOBIVAC PI 10X1DS 440 - 1,N/A,N/A ,24.1 Dose 4 Weeks 1 Animal (01/08/2013-01/05/2015) 	

NOBIVAC L4	DE-NLINTVINT-2014-DE-00245	Germany	Animal	Canine/dog	23 Month(s)	12/03/2014	13/03/2014	1	1	0	12/03/2014	No- No- No- No- Not Known	Tachycardia,Diarrhoea,Tachypnoea Apathy,Abnormal test result	Other	Suspected adverse reaction: A dog was vaccinated on 12 Mar 2014 with Nobivac SHPII and Nobivac L4 (both in a mixed syringe) and with Nobivac T. Directly after the vaccination, within 5 minutes, the animal showed diarrhoea, apathy, tachycardia and tachypnea. Treatment with infusion and prednisolone was applied. Electrocardiogram was performed and showed a high T-wave, therefore a cardiac examination was made which was without special findings. Within 1-2 hours, clear improvement occurred. On the next day, everything was okay again. Additional info: the dog had already been vaccinated with Nobivac SHPII and with Nobivac Lepto, but not yet with Nobivac L4 or Nobivac T. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC SHPII 10X1D5 122 Reason: Vaccination/Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Unknown. Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 10X1D5 620 Reason: Unknown.] [State of health: Good]	Pug	10	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (12/03/2014-12/03/2014) Nobivac SHPII - 1N/A/N/A, 24.1 Dose Once (12/03/2014-12/03/2014) Nobivac T - 1N/A/N/A, 24.1 Dose Once (12/03/2014-12/03/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-00254	Germany	Animal	Canine/dog	7 Year(s)	06/03/2014	17/03/2014	1	1	0	08/03/2014	No- No- No- No	Inappetence,Fever,Apathy,Swallowing difficult,Thrombocytopenia,Leucopenia,Splenomegaly,Pharyngitis,Gingivitis,Vomiting	Other	Suspected adverse reaction: A dog was vaccinated on 6 Mar 2014 with Nobivac SHPII and Nobivac L4 (unknown if in a mixed syringe or separately). 2 days later, the owner noted inappetence and apathy. On 13 Mar 2014, the dog was presented in the practice with additionally fever (40.1 °C), slight thrombocytopenia (137000 / microliter instead of the normal value of at least 164000) and leucopenia (approximately 900 / microliter instead of the normal value of at least 6020). Treatment with antibiotics was performed (amoxicillin with clavulan-acid and doxycycline), thereafter vomiting occurred which disappeared again after discontinuing of the antibiotic therapy approximately on the next day (the vet suspects that vomiting was due to the antibiotic therapy). Diagnostic results: blood parasites (Babesia, Ehrlichia, Anaplasma) negative, oestradiol negative (examined for clarification of pyometra). Ultrasound examination: without special findings, but slight homogenous enlargement of the spleen. On 17 Mar 2014, the symptoms had disappeared and the dog was fit, except that it showed gingivitis and pharyngitis which was associated with problems at chewing and swallowing. The blood picture was also completely okay again. Start / Duration of symptoms: 8 Mar 2014 / ongoing. Follow-up information is expected. Follow-up from 24 Mar 2014: The owner reported on 23 Mar 2014 the following information to the vet: the dog eats again and also demands food, the gingiva is not reddened anymore, the dog also eats dry fodder, therefore probably it has no pharyngitis anymore. On the week-end (22/23 Mar 2014), it had received the last antibiotic-tablet. The dog was considered as recovered on 23 Mar 2014. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC SHPII 10X1D5 122 Reason: Vaccination/Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Unknown.] [State of health: Good]	Golden Retriever	33.7	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (06/03/2014-06/03/2014) Nobivac SHPII - 1N/A/N/A, 24.1 Dose Once (06/03/2014-06/03/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-00278	Germany	Animal	Canine/dog	8.5 Year(s)	24/02/2014	21/03/2014	1	1	1	26/02/2014	Yes- No- Not Known	Icterus,Death,Elevated liver enzymes,Elevated renal parameters	No Data	SAR: On 24 Feb one dog was vaccinated concurrently with Nobivac SHP and Nobivac L4. On 26 Feb the dog was presented again to the vet because of severe icterus. The liver values were not measurable anymore and the kidney values were extremely high (no exact values available). No anaemia was observed. The dog was sent to a clinic. The PCR for Leptospira was positive, antibodies against Leptospira were not found. Despite of treatment the dog died on 4 Mar 2014. No more information expected. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC SHP 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination] [State of health: Good]	Crossbred	12.9	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once 1 Animal (24/02/2014-24/02/2014) Nobivac SHP - 1N/A/N/A, 24.1 Dose Once 1 Animal (24/02/2014-24/02/2014) 	N - Unlikely
NOBIVAC L4	DE-NLINTVINT-2014-DE-00282	Germany	Animal	Canine/dog	5 Month(s)	22/03/2014	24/03/2014	2	2	0	22/03/2014	No- No- No- No- Yes	Facial oedema	Other	SAR: 2 dogs (dachshunds, born 25 Sep 2013, one male 3.4 kg and one female 3.1 kg) were vaccinated with Nobivac SHPII (booster vaccination), Nobivac L4 (first time) and Nobivac T (booster vaccination). Both dogs showed a massive oedema of the head, onset 10-20 minutes (male dog) to 2 hours (female dog). Treatment: Dexamethasone. Symptoms improved soon. The animal owner did not contact the vet again, therefore it is assumed that the animals have recovered. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC SHPII 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 50X1D5 620 Reason: Vaccination] [State of health: Good]	Other Canine/dog	3.4	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (22/03/2014-22/03/2014) Nobivac SHPII - 1N/A/N/A, 24.1 Dose Once (22/03/2014-22/03/2014) Nobivac T - 1N/A/N/A, 24.1 Dose Once (22/03/2014-22/03/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-00303	Germany	Animal	Canine/dog	2 Year(s)	25/03/2014	09/07/2014	1	1	0	25/03/2014	No- No- No	Urticaria,Itching,Swelling NOS	Other	Suspected adverse reaction: A French Bulldog was vaccinated on 25 Mar 2014 towards 2 p.m. with a mixed syringe of Nobivac L4 and Nobivac PI (extra-label use). The dog was presented in the vet clinic at 9 p.m. because of urticaria and swelling at the whole body. Treatment with prednisolone was performed, thereafter improvement occurred immediately. Additional info: the dog is very allergic (pollen, feedstuff). Follow-up information is expected. Follow-up from 2 Jul 2014: It can be assumed that the dog is okay again, as the situation had already clearly improved and as the vet would have contacted us otherwise. We don't expect to get further information, so the case will be closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination/Prophylaxis Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI 10X1D5 620 Reason: Unknown.] [State of health: Good]	French Bulldog	10.2	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (25/03/2014-25/03/2014) Nobivac PI - 1N/A/N/A, 24.1 Dose Once (25/03/2014-25/03/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-00365	Germany	Animal	Canine/dog	9 Week(s)	21/11/2013	09/04/2014	2	1	1	02/12/2013	No- No- No- No- No- Yes	Diarrhoea,Vomiting,Death,hypothermia,Lack of efficacy	Other	SAR=>SLEE A litter of Bolonka Zwetna domestic dogs (exact number of animals is unknown, for the case entry, 2 were chosen), 8 weeks old, were vaccinated on 21 Nov 2013 with Nobivac SHPII and Nobivac L4 and Nobivac T (unknown if mixed or separately). 1 puppy was on 2 Dec 2013 for treatment in the practice because of vomiting and diarrhoea, temperature 33.8 °C. The puppy died approximately on 5 Dec 2013. Although Parvo was diagnosed, the case was reported as adverse reaction, not as lack of efficacy. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC SHPII 50X1D5 620 Reason: Vaccination/Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Unknown. Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 50X1D5 620 Reason: Unknown.] [State of health: Good]	Other Canine/dog	Not Known	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (21/11/2013-21/11/2013) Nobivac SHPII - 1N/A/N/A, 24.1 Dose Once (21/11/2013-21/11/2013) Nobivac T - 1N/A/N/A, 24.1 Dose Once (21/11/2013-21/11/2013) 	N - Unlikely
NOBIVAC L4	DE-NLINTVINT-2014-DE-00369	Germany	Animal	Canine/dog	10 Week(s)	19/03/2014	09/04/2014	3	2	1	22/03/2014	Not Known- No- No- No- Not Known	Vomiting,Nasal discharge,Death,Lateral recumbency,General illness	Not Known	Suspected adverse reaction: 3 Mini-Maltese puppies (10 weeks old) were vaccinated with Nobivac SHP and Nobivac L4 (mixed syringe) on 19 Mar 2014. On 22 Mar 2014, the owner presented 2 puppies in the vet clinic because of very bad general condition and vomiting. It was planned to euthanize one puppy, as it arrived in lateral position. However, symptomatic therapy was applied (no euthanasia). On 24 Mar 2014, at the vet practice, both puppies were presented with the same symptomatology, but slightly improved, but additionally with white discharge from the nose: this was milk, therefore the vet suspects aspiration pneumonia. One puppy died on 28 Mar 2014. The other dog was presented on 1 Apr 2014 and showed good general condition again (recovered). Additional info: the dead pup (the one which showed lateral position) had only approximately 0.5 kg bodyweight, was the smallest of the litter and generally very weak (general condition prior to vaccination moderate). The other puppy's health condition before the vaccination was good. No more information expected. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC SHP 10X1D5 122 Reason: Vaccination/Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Unknown.] [State of health: Not applicable]	Maltese	5 - 2	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (19/03/2014-19/03/2014) Nobivac SHP - 1N/A/N/A, 24.1 Dose Once (19/03/2014-19/03/2014) 	O - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2014-DE-00373	Germany	Animal	Canine/dog	Not Known	09/10/2013	09/04/2014	1	1	0	23/10/2013	No- No- No- No- Yes	Pain NOS,Reluctant to move,Elevated liver enzymes	Other	Suspected adverse reaction: A Dachshund was vaccinated on 9 Oct 2013 with Nobivac SHPII and Nobivac L4 (unknown if mixed or separately). 14 days after vaccination, on 23 Oct 2013, sudden pain symptoms occurred, the dog didn't want to climb stairs, was unwilling to move. The vet suspected spinal problems, but x-ray examination showed no findings, therefore the dog was transferred to a veterinary clinic. Examination revealed no special findings, but very high liver values were detected. Pain treatment was performed and after 3 weeks the pain had disappeared. The liver values were regularly checked and were all (except GOT) 10-20-fold elevated. In the beginning of Feb 2014, only 2 values were still elevated. No more information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC SHPII 50X1D5 620 Reason: Vaccination/Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Unknown. Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 10X1D5 620 Reason: Unknown.] [State of health: Good]	Not Applicable	Not Known	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (09/10/2013-09/10/2013) Nobivac SHPII - 1N/A/N/A, 24.1 Dose Once (09/10/2013-09/10/2013) Nobivac T - 1N/A/N/A, 24.1 Dose Once (09/10/2013-09/10/2013) 	O - Unclassifiable/unassessable

NOBIVAC L4	DE-NLINTVINT-2014-DE-00377	Germany	Animal	Canine/dog	3 Year(s)	21/11/2013	09/04/2014	1	1	0	27/11/2013	No- No	Diarrhoea,Vomiting,General illness	Other	Suspected adverse reaction: A Giant Schnauzer (3 years old) was vaccinated on 21 Nov 2013 with Nobvac PI and Nobvac L4 (unknown if mixed syringe or separately). On 27 Nov 2013, the dog came to the emergency service with diarrhoea, vomiting and bad general condition. Symptomatic therapy was applied. On 2 Dec 2013, the symptoms completely abated and the dog recovered. No more information expected. [Reason for use for product: Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI 10X1DS 620 Reason: Vaccination/Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 540 Reason: Unknown.] [State of health: Good]	Giant Schnauzer	25	Nobvac L4 - 1N/A/N/A, 24.1 Dose Once (21/11/2013-21/11/2013) Nobvac PI - 1N/A/N/A, 24.1 Dose Once (21/11/2013-21/11/2013) 	O - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2014-DE-00383	Germany	Animal	Canine/dog	9 Year(s)	20/01/2014	22/05/2014	1	1	0	04/04/2014	No	Abnormal test result,Stiff gait,Livewell,Fever,Lack of efficacy	Other	Suspected lack of efficacy: A Cocker Spaniel was vaccinated on 12 Dec 2013 with Nobvac L4 and received the second vaccination on 20 Jan 2014 (extra-label use, interval too long). The dog was presented on 4 Apr 2014 in the practice with high fever, very strong uveitis and stiff gait. Thereafter the dog received an antibiotic product and an analgetic product. On 7 Apr 2014, the dog was symptomatically okay again. However blood was taken. Lepto titer of one vaccine serovar was at 1:1600, the others at 1:400. It is planned to repeat the examination in 14 days. Attending vet's causality assessment: unclassifiable. Start / Duration of symptoms: 4 Apr 2014 / 7 Apr 2014. Follow-up information is expected. Follow-up from 13 May 2014: The results of the titer-examination were received (micro-agglutination inhibition test): Test of 9 Apr 2014: grippothypso 1:400, australis 1:1600, bratislava 1:400, copenhageni 1:400, other tested serovars were all negative. Test of 30 Apr 2014: grippothypso 1:200, australis 1:400, bratislava 1:400, copenhageni 1:400, other tested serovars were all negative. The dog was first treated for 8 days with amoxicillin and then 28 days with doxycyclin. The people at the laboratory couldn't explain these titer-values. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 540 Reason: Vaccination/Prophylaxis] [State of health: Good]	Other Canine/dog	13.5	Nobvac L4 - 1N/A/N/A, 24.1 Dose Twice (20/01/2014-20/01/2014) 	N - Unlikely
NOBIVAC L4	DE-NLINTVINT-2014-DE-00399	Germany	Animal	Canine/dog	9 Year(s)	08/03/2014	14/04/2014	1	1	0	01/03/2014	Yes	Circulatory shock,Haemorrhagic diarrhoea,Vomiting,Cough	No Data	SAR: On approx. 8 Mar 2014 one dog was vaccinated with Nobvac L4. After vaccination the dog showed coughing (exact temporal connection not known). On 5 Apr the dog was booster vaccinated with Nobvac L4. 30 minutes after vaccination the dog showed circulatory depression like a shock patient. The animal was treated with Prednisolone and infusion and was sent back home. There the dog showed projectile vomiting and was treated with Generex. Due to haemorrhagic enteritis with liquid faeces the dog was treated with infusion for 3 days. On 15 Apr the dog was recovered, but exact date of recovery is not known. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 540 Reason: Vaccination] [State of health: Good]	Labrador Retriever	33	Nobvac L4 - N/A/N/A/N/A, 24,Unknown Twice 1 Animal (4 Weeks) 08/03/2014-05/04/2014 	A - Probable
NOBIVAC L4	DE-NLINTVINT-2014-DE-00421	Germany	Animal	Canine/dog	5 Month(s)	25/03/2014	19/05/2014	1	1	0	27/03/2014	Not Known	Abdominal pain,General pain (see other SOCs for specific pain),Fever,Apathy,Abnormal test result	Not Known	SAR: On dog was vaccinated with Nobvac L4 and showed severe fever and extremely high titer values. More information expected. Additional information: It is not clear if this case is reported as SAR or SLEE FU 7 May 2014: On 25 Mar 2014 one dog was booster vaccinated with Nobvac L4. After two days the animal showed severe fever (41.6°C), painful abdomen during palpation, apathy, generalized pain and titer values between 1:20 and 1:320 depending on the serovar (no exact values known). The animal was treated with Synovion, Vetargin and Buscopan. Approx. on 16 Apr 2014 the dog was fine again. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 540 Reason: Unknown] [State of health: Unknown]	Crossbred	7	Nobvac L4 - N/A/N/A/N/A, 24,Unknown Unknown (25/03/2014-25/03/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-00435	Germany	Animal	Canine/dog	12 Year(s)	19/04/2014	19/04/2014	1	1	1	19/04/2014	No- No	Tachycardia,Cardiac arrest,Fainting,Death,Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Cyanosis,Extrastyle	Other	SAR: On 19 Apr 2014 one dog was vaccinated with Nobvac SHPII and Nobvac L4 (extra-label use). One minute after vaccination the dog collapsed on the floor and was only panting anymore. Due to tachycardia the vet performed a ECG and ventricular extra systoles were visible. Lidocain was administered, the dog improved for a short time but then showed cardiac arrest. The vet administered Suprarenin intracardial and the heart started pumping again, but only ventricular extra systoles were seen on the ECG. Although no respiratory symptoms were observed (except of panting), the dog showed a cyanotic tongue. Additionally the dog received Resuscitator. Shortly after the administration of Suprarenin the dog had died. Additional information: It is not known if vaccine was administered concurrently or simultaneously. The dog was vaccinated with Nobvac SHPII and Nobvac Lepto the years before without any problems. The vet also contacted the poison information center, but no additional relevant information was reported there. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPII 10X1DS 520 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 540 Reason: Vaccination] [State of health: Good]	Labrador Retriever	30	Nobvac L4 - 1N/A/N/A, 24.1 Dose Once (19/04/2014-19/04/2014) Nobvac SHPII - 1N/A/N/A, 24.1 Dose Once (19/04/2014-19/04/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-00440	Germany	Animal	Canine/dog	18 Month(s)	22/04/2014	23/04/2014	1	1	0	22/04/2014	No- B	Vomiting,Eyelid oedema, Facial oedema,Lip oedema (see also 'SAR')	Other	Suspected adverse reaction: A dog was vaccinated with a mixed syringe of Nobvac SHPII and Nobvac L4 on 22 Apr 2014 and approximately 3 hours after the vaccination it reacted with an extreme swelling of the face (facial oedema). Especially the lips and eyelids were concerned. The dog was treated on the same day with dexamethasone. It showed vomiting (once) during the night. In the next morning, it was already clearly better, only marginal swelling was visible. The dog recovered completely on the same day. Start / Duration of symptoms: approximately 3 hours after vaccination / approximately 1 day. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPII 10X1DS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 540 Reason: Unknown.] [State of health: Good]	Pug	7.5	Nobvac L4 - 1N/A/N/A, 24.1 Dose Once (22/04/2014-22/04/2014) Nobvac SHPII - 1N/A/N/A, 24.1 Dose Once (22/04/2014-22/04/2014) 	
NOBIVAC L4	DE-NLINTVINT-2014-DE-00472	Germany	Animal	Canine/dog	2 Year(s)	28/04/2014	29/04/2014	1	1	0	29/04/2014	Yes	Trembling,Abnormal posture NOS	No Data	Suspected adverse reaction: a dog received on 28 Apr 2014 the booster vaccination with Nobvac L4. On the next day, the owner called the vet to report that the dog is trembling and lays down on the side in a minute manner. Additional info: the dog had been vaccinated 4 weeks earlier with Nobvac SHPII, Nobvac T and Nobvac L4 without problems. Start of symptoms: 29 Apr 2014. Attending vet's causality assessment: unclassifiable. Phone call to vet on 30 Apr 2014: the vet hasn't reached the owners for further information and the owners haven't presented the dog in the practice. So the vet assumes that the animal is okay, if however further information should become available, the vet will contact us again. Case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 540 Reason: Vaccination/Prophylaxis] [State of health: Good]	Other Canine/dog	30	Nobvac L4 - 1N/A/N/A, 24.1 Dose Once (28/04/2014-28/04/2014) 	O - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2014-DE-00477	Germany	Animal	Canine/dog	4 - 5 Year(s)	02/04/2014	22/05/2014	3	2	0	03/04/2014	No- No, No, No, Not Known	Vomiting,Weakness	Other	Suspected adverse reaction: After vaccination with Nobvac L4, Nobvac SHPII and Nobvac T (unknown if given in mixed syringe or at different application sites) on 2 Apr 2014, 2 dogs (both Beagle; 1 female, 13 kg, 5 years old; 1 male, 18.3 kg, 4 years old; both neutered) felt floppy and vomited frequently (no exact frequency known). Start / Duration of symptoms: approximately 3 Apr 2014 / still ongoing. The dogs are receiving BARF-feeding (Bones And Raw Food) just recently. Attending vet's causality assessment: unclassifiable (for all vaccines). Note: a third dog (Entlebucher Sennerhund) was vaccinated together with the two reacting dogs, but showed no adverse reactions. Follow-up information is expected. Follow-up from 13 May 2014: The dogs were presented in the practice on 29 Apr 2014 for booster-vaccination with Nobvac L4. They were clinically inconspicuous. No blood picture was performed, but the vet recommended to change the feeding again to conventional feeding. This was then performed. The dogs were vaccinated on the same day and thereafter had no problems at all. Currently, the problems (floppiness and vomiting) have disappeared. The vet suspects a causal relation to the feeding, but not to the vaccination. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 540 Reason: Vaccination/Prophylaxis Generic: DHPPI LV Brand: NOBIVAC SHPII 10X1DS 122 Reason: Vaccination/Prophylaxis Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 10X1DS 620 Reason: Vaccination/Prophylaxis] [State of health: Good]	Beagle	13.4 - 18.8	Nobvac L4 - 1N/A/N/A, 24.1 Dose Once (02/04/2014-02/04/2014) Nobvac SHPII - 1N/A/N/A, 24.1 Dose Once (02/04/2014-02/04/2014) Nobvac T - 1N/A/N/A, 24.1 Dose Once (02/04/2014-02/04/2014) 	O - Unclassifiable/unassessable

NOBIVAC L4	DE-NLINTVINT-2014-DE-00968	Germany	Animal	Canine/dog	2.5 Year(s)	16/07/2014	16/07/2014	1	1	1	16/07/2014	Yes; R> Yes	Muscle spasm NOS,Dyspnoea,Death,Malignant hyperthermia,Hypothermia,Reduced responses,Anaphylactoid reaction,Lateral recumbency,Convulsion,Coma	No Data	SAR: A vet called for advice because of a possible anaphylactoid reaction post vaccination. Vet reported that she vaccinated the dog in the morning of 16 Jul 2014 with Nobivac L4 and Nobivac SHPPI. In the afternoon the animal owner called her because the dog showed lateral recumbency, was non responsive, had a high-grade dyspnoea and temperature was elevated to 39.2°C. Owner poured on cold water, and the dog showed a bit improvement. The owner was advised to present the dog to the vet, but owner was not willing to do that. Follow up from 21 Jul 2014: The dog was presented to the vet in the afternoon of the 16 Jul 2014. Temperature more than 43°C (value which could not be measured by thermometer). Spasm on hind legs, not responsive, comatose, convulsion. Treatment: Corticoids, cold water pour on. 2 hrs later Temp 41°C. Then dog showed convulsion again and died. Further information: In the meantime the attending vet heard about 2 other dogs of another breeder which showed similar reactions (no further information available). Vets opinion reaction occurred due to a genetic disposition to "malignant hyperthermia" and not a hypersensitivity to the vaccination. No autopsy. Case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination] [State of health: Good]	Rottweiler	50	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (16/07/2014-16/07/2014) Nobivac SHPPI - 1N/A/N/A, 24.1 Dose Once (16/07/2014-16/07/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-00982	Germany	Animal	Canine/dog	4 Year(s)	27/06/2014	24/07/2014	1	1	0	27/06/2014	Yes	Pale mucous membrane,Circulatory collapse (see also 'Neurological' and 'Systemic disorders')	No Data	Follow-up 18 Aug 14: The clinic vet who saw the dog on the evening of the vaccination confirmed all information given. The dog was not treated in the clinic because it had already recovered. The clinic vet sees no connection between the reaction and the vaccination, but rather thinks it was a circulatory weakness due to high outdoor temperatures. Case closed. SAR: A dog received booster vaccination with Nobivac L4 on 27 Jun 2014 at 18 p.m. Approximately 2-3 hrs post vaccination the dog showed symptoms similar to circulatory collapse, with pale mucosa, unsteady gait, duration: some hours. On the way to the vet clinic (late in the night) the dog already recovered. According to attending vet: no treatment in the vet clinic performed, vet clinic's suspicion: high outdoor temperature had played a role. Prior to vaccination blood test was performed and without abnormal findings. F/nap expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination] [State of health: Good]	Labrador Retriever	32	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (27/06/2014-27/06/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-01002	Germany	Animal	Canine/dog	3 Month(s)	23/07/2014	24/07/2014	19	1	1	24/07/2014	No; R> No; Yes	Found dead	Other	Suspected Adverse Reaction: 19 puppies were vaccinated on 23 Jul 2014 (approx. 16:00 p.m.) with Nobivac SHPPI and Nobivac L4 simultaneously (ELU) and Nobivac T concurrently. At the evening all 19 puppies were lively and guzzled quite normally. On the next morning (24 Jul 2014) the dog breeder found one puppy dead. The puppy was buried in the meantime. Pathological examination not possible. No further information. Further information: This puppy had been vaccinated before on 26 Jun 2014 with a non-company vaccine (Euranic SHPPI). No further information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Unknown. Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 10XIDS 620 Reason: Unknown.] [State of health: Good]	Yorkshire Terrier	1	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (23/07/2014-23/07/2014) Nobivac SHPPI - 1N/A/N/A, 24.1 Dose Once (23/07/2014-23/07/2014) Nobivac T - 1N/A/N/A, 24.1 Dose Once (23/07/2014-23/07/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-01004	Germany	Animal	Canine/dog	12 Week(s)	16/07/2014	04/09/2014	1	1	0	16/07/2014	Not known; R> Yes; Yes	Vomiting,Anorexia,Weight loss,Abnormal test result,Pancreatitis,General illness,Electrolyte disorder,Elevated lipase	No Data	SAR: On 16 Jul 14 the dog (breed: Lagotto Romagnolo) was vaccinated with Nobivac SHPPI and Nobivac L4. Furthermore the dog was dewormed with an unknown product at the same time. (Four weeks before it was vaccinated with a non-company vaccine.) A few hours after the vaccination the dog was in a poor general condition (coded as general illness). On the next day (17 Jul) it started vomiting and was barely eating, but temperature was normal. At first, the vet suspected that the dog had eaten a foreign body (was not confirmed). Until 24 Jul the dog had lost 1 kg of weight (from 6.7 to 5.7 kg), blood samples were taken and revealed strong elevation of lipase, amylase and CRP (C-reactive protein, unspecific inflammatory parameter), and electrolyte imbalances. Therefore the vet diagnosed a pancreatitis. Treatment: analgesic, anti-emetic, antibiotics, diet. Since then the dog shows low grade improvement. Vets causality assessment is unclassified, but he rather suspects the deworming to be a possible cause. Follow-up 25 Aug 2014: All blood parameters are within reference range again. The dog has fully recovered, no symptoms any more. Revaccination on 25 Aug 2014 without problems. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 50XIDS 620 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination Generic: Brand: Dewormer (unknown product) Reason: Unknown] [State of health: Good]	Other Canine/dog	6.7	Dewormer (unknown product) - N/A/N/A/N/A, 24,Unknown (16/07/2014-16/07/2014) Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (16/07/2014-16/07/2014) Nobivac SHPPI - 1N/A/N/A, 24.1 Dose Once (16/07/2014-16/07/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-01008	Germany	Animal	Canine/dog	80 Day(s)	22/07/2014	23/07/2014	1	1	0	22/07/2014	Yes; R> Yes	Vomiting,Pinnal oedema/Facial swelling (see also 'Skin'),Dyspnoea,Reddening of the skin,Itching,Swelling NOS,Allergic reaction	No Data	Follow-up 29 Jul 2014: The dog received Atarax-tablets (human antihistaminic product) for approx. 5 days and is only walked on asphalt. Swellings have abated completely after 12 hours (approx. on 24 Jul 2014), since then it is completely okay again. No more information expected. SAR: On 22 Jul 2014, a puppy was administered at the age of 80 days (11.5 weeks) the second vaccination of the basic immunization with Nobivac SHPPI and Nobivac L4 (no mixed syringe). The first vaccination had been at the age of 52 days (7.5 weeks) without problems. 30 minutes after the injection, an allergic reaction occurred with reddening, itching, swelling of the mucosae up to dyspnoea. Treatment with cortisone (dexamethasone) on 22 Jul 2014, symptoms completely abated, but after releasing from practice, at home the symptoms recurred again. In the morning of 23 Jul 2014 the puppy vomited more than 30 times and was hospitalized. Again treatment with cortisone (prednisolone) was applied. The symptoms improved, but the head and the ears were still swollen despite therapy. According to the vet, a further allergen besides the vaccination cannot be excluded, as before the worsening of the symptoms (after the vaccination, in the evening after cortisone-treatment and in the morning) the dog had been each time on a meadow and there it showed increased itching (allergy to grasses?). Oral ingestion of foreign body on the meadow cannot be excluded either. Start / Duration of symptoms: 30 minutes after injection / ongoing. Follow-up information is expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 50XIDS 620 Reason: Basic immunization Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Basic immunization] [State of health: Good]	French Bulldog	3.5	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (22/07/2014-22/07/2014) Nobivac SHPPI - 1N/A/N/A, 24.1 Dose Once (22/07/2014-22/07/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-01034	Germany	Human	Human	5 Year(s)	01/07/2014	01/08/2014	1	1	0	01/07/2014	Not Known	Enteritis,Renal failure,Abnormal test result	Not Known	Human symptomatic exposure: A 5-year old child is lying in the hospital with renal failure and intestinal inflammation, it is currently in the intensive care unit and treated with intensive medicine. Renal- and liver-values are very bad. There is the suspicion of leptospirosis. The dog owner and the physicians see a relation between the disease and the Nobivac L4-vaccination of the dog which had been correctly performed (s.c.) by the vet on 17 Jul 2014 (this was the 3rd vaccination, dog had already been vaccinated with Nobivac L4 two times before). The dog owner asked the vet, if possibly leptospirae were defecated by the dog due to the vaccination. As the vaccine is an inactivated vaccine, this could be denied. Furthermore no direct contact happened between the child and the vaccine. The child has recently spent a lot of time on a farm, which was cleaned out, and where much faeces of rodents is present. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Accidental Exposure] [State of health: Unknown]	Human	Not Known	Nobivac L4 - ... 	No assessment performed	

NOBIVAC L4	DE-NLINTVINT-2014-DE-01077	Germany	Animal	Canine/dog	3.5 Year(s)	11/08/2014	12/08/2014	1	1	0	11/08/2014	No- R-> No	Injection site pain,Tachycardia,Pale mucous membrane,Vomiting,Trembling	Other	SAR: Initially the vet reported a reaction seen in 6 to 7 dogs from which one dog (Bichon Frise) was affected more severely than the others. Detailed patient information was received for this dog. Therefore the case was entered as two cases: 2014-DE-01077 (Bichon Frise, serious case) and 2014-DE-01078 (approximately 6 dogs, various breeds, non-serious case). On 11 Aug 2014 a dog was vaccinated with Nobivac SHPPi and Nobivac L4 simultaneously mixed in one syringe (EU1). No reactions were seen during the vaccination and while the dog was still in the vet's practice. Approximately 3 hours after the vaccination when the dog was at home after being out for a walk it started to tremble, vomited once and showed pain at the injection site on an area approximately hand palm sized. There was no swelling. The dog was presented to the vet who also noticed tachycardia and pale mucous membranes. Body temperature was normal. The vet recommended to the owner to keep the dog calm, to cool the concerned area and to give Metacam as well as Traumeam tablets for 3 days. On the same day late afternoon when the vet phoned the owner the dog had recovered but was still slightly painful at the injection site. On 18 Aug the dog had fully recovered. No further information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPi 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Unknown.] [State of health: Good]	Bichon Frise	5.9	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (11/08/2014-11/08/2014) Nobivac SHPPi - 1N/A/N/A, 24.1 Dose Once (11/08/2014-11/08/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-01124	Germany	Animal	Canine/dog	9 Year(s)	05/06/2014	21/08/2014	1	1	0	01/06/2014	Not Known	Anxiety,Behavioural disorder NOS,Painting,Breathing difficulty	Not Known	SAR: A dog was vaccinated with Nobivac L4 on 09 May 2014 (without SAR) and booster vaccinated on 05 Jun 2014. On 15 Aug 2014 the vet received a fax from the animal owner: since vaccination the dog shows panting, not being able to breathe properly, is anxious and does not listen to the commands of the owner any longer. Animal owner is sure that reason for this is vaccination, vets suspicion is "unlikely". An examination of the dog is not easy because it is very snappy, it was examined for the last time in 2012, therefore the vet can not give information on the health status. [Reason for use for product: Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: booster/Vaccination] [State of health: Unknown]	Crossbred	35	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (05/06/2014-05/06/2014) 	O - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2014-DE-01132	Germany	Animal	Canine/dog	11 Year(s)	15/06/2014	03/09/2014	1	1	0	15/06/2014	Not Known, > Not Known, > Not Known	Alopecia general,Seborrhea,Pustules,Pruritus,Pyoderma,skin scab	Not Known	Reason for treatment: ectoparasitic control Suspected adverse reaction: Dog was treated mid of Jun 2014 with Bravecto (no concentration was given so 1000 mg was chosen), Nobivac SHPPi and Nobivac L4. According to the pet owner the following symptoms started after this treatment: pruritus/pyoderma at the tail ground and the flanks. Pet owner is of the opinion that this reaction is due to the treatment with Bravecto (given by another vet). The reporting vet is of the opinion that a pyoderma on the vulva is the cause of reaction which was distributed over the whole body by licking. The dog was treated by washing with shampoo, cortisone and antibiotics. Mid of August the symptoms have clearly worsened. There is nearly no coat, but seborrhea and pustules. On 29 Aug 2014 the pet owner reported to the vet that there is still no improvement, but also no worsening: dry pustules, scabby skin. Reporting vet will make a parasitological examination. FU will be provided. [Reason for use for product: Generic: FLURALANER CHEW TABLETS Brand: BRAVECTO 1000MG 1X1TAB EU1 Reason: Ectoparasitic control Generic: DHPPI LV Brand: NOBIVAC SHPPi 10X1D5 122 Reason: Unknown. Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Unknown.] [State of health: Good]	Akita	22	Bravecto 1000 mg (1 Tablet) - 1N/A/N/A, 24.1 Tablets Once (15/06/2014-15/06/2014) Nobivac L4 10X1D5 540 (PEI) - 1N/A/N/A, 24.1 Unknown (15/06/2014-15/06/2014) Nobivac SHPPi 10X1D5 122 (PEI) - 1N/A/N/A, 24.1 Unknown (15/06/2014-15/06/2014) 	O - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2014-DE-01145	Germany	Animal	Canine/dog	4 Year(s)	25/08/2014	23/09/2014	1	1	0	25/08/2014	No- R-> No	Increased heart rate,Reddening of the skin,itching,Red mucosae,Cyanosis,Chattering of teeth,Conjunctival oedema,Anaphylactic shock,Breathing difficulty,Prolonged capillary refill time	Other	SAR: A dog (Yorkshire Terrier, 4 kg) was vaccinated extra label with Nobivac SHPPi plus Nobivac L4 simultaneously (not vaccinated with these products before). 30 minutes post vaccination when animal was at home again, it showed chattering of teeth. The animal was brought back to the vet, there cyanotic mucosa, shortness of breathing, increased heart rate, prolonged capillary refill time (over 3 seconds), animal still reacting, shock. Therapy: Methylprednisolone, O2. animal improved after 3-4 hrs., then animal showed skin reaction: generalized reddened skin, itching, reddened and swollen conjunctiva. Therapy: Dexamethasone intravenously, infusion. Went home on 26 Aug 2014, still low grade red skin. Follow-up form 15 Sep 2014: The animal owner did not contact the vet again. Outcome unknown. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPi 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination] [State of health: Good]	Yorkshire Terrier	4	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (25/08/2014-25/08/2014) Nobivac SHPPi - 1N/A/N/A, 24.1 Dose Once (25/08/2014-25/08/2014) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2014-DE-01174	Germany	Animal	Canine/dog	8 Year(s)	25/08/2014	22/09/2014	1	1	0	27/08/2014	Yes	Injection site necrosis,Injection site swelling,skin oedema,Fever,Injection site seroma	No Data	SAR: Approximately on 25 Aug 2014 a dog (Cocker Spaniel) was vaccinated with Nobivac L4. Two days after the vaccination a local swelling (approximately 4x5cm) appeared at the injection site. The dog was treated with Metacam. The swelling became an approximately hand palm-sized seroma with edematous swelling of the lateral thoracic wall. The dog developed fever (40°C). Puncturing revealed serousanguinous liquid. A sample was sent to a lab for examination. Also blood samples were taken and sent to the lab. The dog is treated symptomatically and with decongestant bandages. According to an email from the owners on 05 Sep 2014 most of the secretion drained off over night due to the pressure bandage, but now an approximately coin size skin necrosis has developed in this area. This necrosis is slowly coming off now, leaving the underlying tissue in this area uncovered, which will most probably have to be operated. Follow-up is pending. FU 15 Sep 14: Since the vet did not answer to our follow-up calls and could not be reached multiple times no further information is expected. Case closed. [Reason for use for product: Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination] [State of health: Good]	Other Canine/dog	14	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once (25/08/2014-25/08/2014) 	A - Probable
NOBIVAC L4	DE-NLINTVINT-2014-DE-01188	Germany	Animal	Canine/dog	4 Year(s)	01/09/2014	13/10/2014	1	1	0	06/09/2014	Not Known, > Not Known, > Not Known	Leucocytosis,Tarry or black stool (see also haemorrhagic diarrhoea),Blindness,Retinal detachment,Dyspnoea,Decreased appetite,Lethargy (see also Central nervous system depression in "Neurological"),Weakness,Fever,Regenerative anaemia,Laboured breathing,Abnormal test result,Elevated liver enzymes,Abnormal radiograph finding,General illness,Petechiae NOS,Anaemia NOS,Thrombocytopenia	Not Known	SAR: A dog was vaccinated with Nobivac L4, Nobivac SHPPi and Nobivac T on 01 Sep 2014. According to animal owner (who is blind, the dog is a guide dog) the dog had already a reduced general health at the vaccination day, but according to vet the dog did not show any abnormality in the general health check. On 6 Sep 2014 it was presented to vet with fever (39.7°C) and reduced general health. Treatment: Rimadyl, Dughamox. On 7 Sep 2014 worsening of symptoms. On 08 Sep 2014 presented to vet again with fever (39.3°C), weakness, lethargy, decreased appetite. The owner reported that the animal had laboured breathing, but vet did not confirm. On 11 Sep 2014 the vet reported that the symptoms improved, but dog still shows reduced appetite, but more awake, temperature elevated (39.6°C). Blood tests: Leucocytosis, Granulocytosis, Thrombocytopenia, Hematocrit decreased, Hemoglobin decreased. Further treatment: Dughamox, Novalgin. Vets differential diagnosis also field virus Leptospirosis infection. Follow up from 7 Oct 2014: 13 Sep: 40°C fever, worsened general health. Hospitalized. 16 Sep: Thrombocytopenia worsened (6000), Leukocytosis (13.7), Haematocrit and Hemoglobin still decreased (40/15). Fever (40.6°C). 17 Sep: Petechiae, black feces, dyspnoea, lung compressed (w-ray). Therapy: Prednisolone, stomach protection, blood transfusion. Still leucocytosis. No fever. 20 Sep: retinal detachment, both eyes (due to bleeding behind retina). The dog is now blind. Therapy: Prednisolone (furthermore), Doxycycline, Vincristin. 22 Sep: Leptospirosis PCR urine: negative, Leptospirosis antibody titers all normal, Leishmania 1:32 (borderline titer), Anaplasmosis >=1:200 positive, Liver enzymes high grade elevated, Thrombocytopenia (still 20) Anaemia regenerative, Haematocrit 22. 02 Oct: Dog went home, thrombocytes, red blood values, leukocytes all normal. Treatment stopped due to high liver values. Dog still blind. Case closed. [Reason for use for product: Generic: LEPTO*4(I)CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination Generic: DHPPI LV Brand: NOBIVAC SHPPi 50X1D5 620 Reason: Vaccination Generic: RABIES IN ALU ADIUVANT KV Brand: NOBIVAC T 10X1D5 620 Reason: Vaccination] [State of health: unknown]	Standard Poodle	19	Nobivac L4 - 1N/A/N/A, 24.1 Dose (01/09/2014-01/09/2014) Nobivac SHPPi - 1N/A/N/A, 24.1 Dose (01/09/2014-01/09/2014) Nobivac T - 1N/A/N/A, 24.1 Dose (01/09/2014-01/09/2014) 	O - Unclassifiable/unassessable

NOBIVAC L4	DE-NLINTVINT-2014-DE-01661	Germany	Animal	Canine/dog	11 Year(s)	02/12/2014	07/07/2015	1	1	1	0	03/12/2014	Yes	Behavioural disorder NOS,Restlessness,Arrhythmia,Tachycardia,Cardiac disorder NOS,Weakness	No Data	Suspected Adverse Reaction: On 28 Oct 2014, the dog received Nobivac L4 for the first time in the course of a vaccination with Nobivac SHP, Nobivac L4 and Nobivac T. Then on 02 Dec 2014, the booster-vaccination with Nobivac L4 (alone) was performed. At the auscultation prior to vaccination, there had been no special findings. The owners are physicians. On the day after the vaccination (03 Dec 2014), the dog was floppy. The owners themselves auscultated the heart and noted an arrhythmia. In the following days, the dog was restless. On 11 Dec 2014 the animal was presented in the practice where a tachy-arrhythmia with split first heart-tone was noted (suspicion of myocarditis). The owner described the animal as languid, restless, with changed character. The lung was without special findings, the temperature was without special findings, laboratory examination was inconspicuous. The dog received Clavaseptin, then treatment was changed to penicillin. The vet doesn't want to use this vaccine-batch further (however, she has 2 different batches of Nobivac L4 in use). So far, no further cardiac diagnostics have been performed. The vet asked for diagnostics on leptospirosis. We recommended to perform cardiac diagnostics first. Start / Duration of symptoms: on the day after the vaccination / ongoing. Further follow-up information is expected. Follow-up from 07 Jan 2015: Cardiac examination in Jan 2015 revealed mitral valve endocardiosis; thereafter the practice hasn't received any further information concerning the dog. Case closed. [Reason for use for product: Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1DS 540 Reason: Vaccination] [State of health: Good]	Labrador Retriever	Not Known	Nobivac L4 - 1N/AN/A, 24.1 Dose Once 1 Animal (02/12/2014-02/12/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-01670	Germany	Animal	Canine/dog	6 Year(s)	05/03/2014	10/01/2015	1	1	1	1	06/12/2014	Yes	Anaemia NOS,Thrombocytopenia,Vomiting,Blood in vomit,Oliguria,Renal failure,Death by euthanasia,Lack of efficacy,Liver failure,Apathy,Abnormal test result,Elevated liver enzymes,Elevated renal parameters	No Data	Susp Lack of Expected Efficacy: On 04 Feb 2014 and 05 Mar 2014 a dog (Springer Spaniel) was vaccinated with Nobivac L4 for basic immunization by another vet. Condition prior to treatment is therefore unknown, but described as healthy by the reporting vet, who is a friend of the owner. The dog had been vaccinated on a regular basis with Nobivac Lepto as well as with non-company Leptospirosis vaccines before. Approx on 08 Dec 2014 the dog started to show symptoms of Leptospirosis commencing with vomiting. Since that time point the dog deteriorated very quickly and was forwarded immediately to the university hospital. There, the dog was treated until on 10 Dec 14 he showed renal and liver failure and spit blood, so the dog was euthanized on the same day. PCR diagnostic confirmed Leptospirosis. The serovar(s) involved are unknown. Additional information: The dog had come from Malta 4 years ago. Follow up expected: FU 10 Jan 2015: We received confirmation of the information given and further case details by the university clinic where the dog had been treated. The dog had been presented in the clinic on 07 Dec 14 with acute vomiting and apathy. Laboratory test results revealed acute renal failure, elevated liver values, thrombocytopenia and anaemia. PCR for Leptospirosis in the blood was positive, in the urine negative, antibody titres against Leptospirosis were negative. The dog was treated with infusion, Amoxicillin/ clavulanic acid, Metoclopramide, Omeprazol, Metamizol and Buprenorphine. In the course of the disease the renal values increased (oliguria) and on 10 Dec the dog was euthanized due to suspected lung bleeding. Case closed. [Reason for use for product: Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 540 Reason: Vaccination] [State of health: Unknown]	Other Canine/dog	Not Known	Nobivac L4 - 1N/AN/A, 24.1 Dose Once 1 Animal (05/03/2014-05/03/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-DE-01679	Germany	Animal	Canine/dog	15 Month(s)	15/12/2014	16/12/2014	1	1	1	0	15/12/2014	No, R No	Periorbital oedema,Irritcaria,Vaginal swelling,Reddening of the skin,Itching,Local swelling (not application site)	Other	Suspected Adverse Reaction: On 15 Dec 2014 in the morning (approx. 8.45 - 9 a.m.) a dog (Pug) was vaccinated with Nobivac SHPI and Nobivac L4 simultaneously mixed in one syringe (ELU). In the evening of the same day (approx at 6.30 p.m.) it developed allergic symptoms: reddening and swelling of the muzzle and eye area. An homeopathic antiallergic drug was given and improvement of the symptoms occurred. This however, swelling in the vaginal area, urticaria over the whole body and itching occurred (approx. at 9.00 p.m.). Prednisolon was given. On 16 Dec 2014, the dog came for a control-check and everything was fine again. There was no reaction at the injection site. The owners reported that they had bought a new cheap dog basket from the Internet and the dog had nibbled at it. The owners and the vet don't exclude that the allergic reaction has occurred as a consequence of that or that the dog had come in contact with another allergenic source during the dog walk. The booster-vaccination with Nobivac L4 will be performed in 4 weeks and the dog will be monitored. The vet will contact us if the dog should react again. The basket was removed. Previous vaccinations had been performed on 19 Nov 2013 with a vaccine from Virbac and on 13 Dec 2013 with a vaccine from Merial without problems. Start / Duration of symptoms: approx. 10 hours after vaccination / next day. Case closed. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPI 50X1DS 540 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 540 Reason: Unknown.] [State of health: Good]	Pug	9.5	Nobivac L4 - 1N/AN/A, 24.1 Dose Once 1 Animal (15/12/2014-15/12/2014) Nobivac SHPI - 1N/AN/A, 24.1 Dose Once 1 Animal (15/12/2014-15/12/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2014-FR-00785	France	Animal	Canine/dog	6 Month(s)	21/07/2014	05/09/2014	1	1	1	1	11/08/2014	Yes	Not eating,Mucosa petechiae,Abnormal test result,Pale mucous membrane,Bloody diarrhoea,Vomiting,Icterus,Not drinking,Death,Weakness,Lack of efficacy	No Data	On 21 Jul 2014 a puppy was revaccinated with Nobivac L4 in Germany. Previous vaccination on 16 Jan 2014 with Nobivac SHPI, Nobivac L4 and a non-company rabies vaccine had been without problem. After the second vaccination the owners went on holiday to France with the dog. On 11 Aug 2014 the owners phoned the vet and reported that the dog showed vomiting and bloody diarrhea, would not eat and drink, was weak and had pale mucous membranes. The dog was presented to a vet practice and then a vet clinic in France. On 12 Aug the mucous membranes had become icteric with petechiae. The dog was treated with infusion, Augmentan, MCP, a spasmolytic, and analgetics. On 13 Aug the dog died. Urine and blood samples were tested positive for Leptospira interrogans by PCR. The serovars involved were not determined. Additional information: The dog had a lameness due to a swelling of the knee joint after a trauma shortly before the revaccination and was treated with Previcox. At the time of the vaccination the knee was still slightly swollen, but otherwise the dog was healthy. No postmortem was performed. The vet's causality assessment is O unclassified. No more information expected. Duration of reaction: 2 Days Reason for treatment: Vaccination Outcome of SAR: Unfavorable.	Labrador Retriever	16.3	Nobivac L4 - N/A/N/A/N/A, N/A,1 Dose ; duration: Once; (21/07/2014, N/A) 	N - Unlikely	CA comments: According to the case chronology, clinical signs of leptospirosis occurred about 3 weeks after the end of primovaccination. Therefore, considering an incubation period of at least 5-6 days, infection must have occurred before the onset of immunity, which is expected only 3 weeks after the second primovaccination injection. As a consequence, by the time of infection, no efficient vaccine-induced immune protection could be achieved. Thus, the role of NOBIVAC L4 is assessed: N (Unlikely).
NOBIVAC L4	DE-NLINTVINT-2015-DE-00003	Germany	Animal	Canine/dog	3 Month(s)	16/12/2014	02/01/2015	1	1	1	0	16/12/2014	Yes, R R Yes	Respiratory arrest,Oedema NOS (see other SOCs for specific oedema),Anaphylactic shock,Impaired consciousness,Circulatory disorder NOS	No Data	Suspected Adverse Reaction: On 16 Dec 2014 a dog was vaccinated with Nobivac SHPI and Nobivac L4. Approx 5 minutes after application of the vaccines the dog had an anaphylactic shock (loss of consciousness, respiratory arrest, edema). The dog was reanimated with Doxapram, heat, infusion, manual reanimation, Dexamethasone injection and other therapeutic measures. The dog was symptom-free after approx 5 hours on the same day. No more information expected. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPI 50X1DS 620 Reason: Booster vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1DS 540 Reason: Unknown.] [State of health: Good]	Shih Tzu	2	Nobivac L4 - 1N/AN/A, 24.1 Dose Once 1 Animal (16/12/2014-16/12/2014) Nobivac SHPI - 1N/AN/A, 24.1 Dose Once 1 Animal (16/12/2014-16/12/2014) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2015-DE-00012	Germany	Animal	Canine/dog	11 Year(s)	22/12/2014	21/01/2015	1	1	1	0	02/01/2015	Yes, R R Yes	Anaemia NOS,Thrombocytopenia,Autoimmune disorder NOS,Oedema of the extremities (see also other SOCs for most applicable oedema),Seizure NOS,Weakness,Coagulopathy,Skin petechiae	No Data	SAR: On 22 Dec 2014 an 11 year old Australian Shepherd (tested for MDR-1 defect, vet does not remember exactly but possibly positive) was vaccinated with Nobivac SHPI (vaccinated with this product since years without SAR) and Nobivac L4 (first vaccination). On 02 Jan 2015 the dog showed weakness and oedema on the hind legs. In the clinic the initial suspected diagnosis was gastrointestinal infection, symptomatic treatment. On 04 Jan 2015 the dog showed seizure and hemorrhage under the skin (petechiae), anaemia, thrombocytopenia, coagulation disturbance, animal hospitalized. Investigation: parasites of the blood negative, auto-antibody not tested, poisoning and other potential causes not to exclude. Therapy: blood plasma substituted, antibiotics, NSAID, Prednisolone, Doxycycline. Dog was released from hospital on 07 Jan 2015, recovered inclusive the blood values, but still oedema on hind legs. Immune mediated reaction / autoimmune reaction was discussed. Follow up from 21 Jan 2015: Dog fully recovered (oedema on approximately 13 Jan 2015). Vet reported that in the same period of time further dogs had been presented to this vet clinic with symptoms of poisoning (rat poison?), the vet assesses causal relation to vaccination as "unlikely". [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPI 50X1DS 620 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1DS 540 Reason: Vaccination] [State of health: Good]	Australian Shepherd Dog	33	Nobivac L4 - 1N/AN/A, 24.1 Dose Once (22/12/2014-22/12/2014) Nobivac SHPI - 1N/AN/A, 24.1 Dose Months (22/12/2014-22/12/2014) 	O - Unclassifiable/unassessable	

NOBIVAC L4	DE-NLINTVINT-2015-DE-00233	Germany	Animal	Canine/dog	9 Year(s)	09/02/2015	12/03/2015	1	1	0	13/02/2015	Yes	Leucocytosis,Fever,Abnormal test result,Pancreatitis	No Data	Suspected Adverse Reaction: A dog was vaccinated on 09 Jan 2015 with Nobivac L4 and Nobivac SHPP1 without problems. After the booster-vaccination with Nobivac L4 (on 09 Feb 2015), the dog showed 4 days later (on 13 Feb 2015) persisting high fever (> 40 °C). Treatment was performed with Metacam and first amoxicillin, from 02 Mar 2015 Cobactan and once desamethason. Only minimal improvement occurred due to the treatment, but the fever is increasing again and again. Otherwise no symptoms occurred. The dog is still under treatment, further blood results (unknown which) were requested on 01 Mar 2015 and are still awaited. A control-check and ultra-sound examination of the abdomen is planned. Test results: blood test from 21 Feb 2015: Leukocytes: 23000 / microliter (reference: 6000 - 12000 / microliter), segmented neutrophils: 90 % (reference: 60 - 77 %), monocytes slightly elevated, liver-values and kidney values and all other results without special findings. Start / Duration of symptoms: 13 Feb 2015 / ongoing. Attending vet's causality assessment: unclassifiable. Follow-up information is expected. Follow-up from 12 Mar 2015: Further blood result: specific pancreas-lipase was elevated, therefore the diagnosis pancreatitis was stated. Cobactan was continued and in total dexamethason was given twice. Thereafter, the dog was doing that well again at the last control check, that an ultra-sound examination of the abdomen was renounced. Outcome: recovered approx. on 04 Mar 2015. Possible batch-numbers of the used Nobivac L4: AD23A01 or AD21A02 (the first number is more likely). No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination] [State of health: Good]	Jack Russell Terrier	8	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once 1 Animal (09/02/2015-09/02/2015) 	0 - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2015-DE-00241	Germany	Animal	Canine/dog	3 Month(s)	05/03/2015	06/03/2015	1	1	0	05/03/2015	No, R> R> R>	Restlessness,Vocalisation,Pale mucous membrane,Diarrhoea,Facial swelling (see also 'Skin'),Itching,Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Lethargy (see also Central nervous system depression in 'Neurological'),Reduced responses,Anaphylactic-type reaction	Other	Suspected Adverse Reaction: Approx. on 06 Feb 2015, a dog was vaccinated with another vaccine at the breeder (SHPP1 + I3) without problems. On 05 Mar 2015, it was planned to perform the booster-vaccination with Nobivac SHPP1 and Nobivac L4 (mixed) and Nobivac T. The vet drew up both syringes, but didn't administer Nobivac T anymore, as the dog already showed symptoms after the first syringe. Shortly after the injection, the dog howled. The vet took the dog on her arm to calm it down and then gave it to the owner. Within few seconds, the dog got extremely quiet and the mucosae became white, circulatory collapse occurred, dog wasn't responsive anymore. Temperature was normal. Therapy: Adrenalin i.m., later once more as i.v. application, a vein-catheter was set and infusion with NaCl-solution was given. After approx. 10 minutes, the dog came around / woke up again. It was still kept in the practice for monitoring. After approx. 45 minutes, the dog showed itching and got swellings in the face. Prednisolon i.v.(Solu-Decortin) was given and thereafter, approx. 30 minutes later, the swellings had disappeared again and there was no itching anymore. Then the dog was taken home. There it was still restless and had diarrhoea. On 06 Mar 2015 in the morning everything was okay again. The event was reported as an anaphylactic reaction after vaccination. Start / Duration of symptoms: shortly after injection / until the next day. No more information expected. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10X1D5 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Unknown.] [State of health: Good]	Border Collie	3.85	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once 1 Animal (05/03/2015-05/03/2015) Nobivac SHPP1 - 1N/A/N/A, 24.1 Dose Once 1 Animal (05/03/2015-05/03/2015) 	B - Possible
NOBIVAC L4	DE-NLINTVINT-2015-DE-00242	Germany	Animal	Canine/dog	10 Year(s)	15/12/2014	04/03/2015	1	1	0	15/12/2014	No, R> R> R>	Lack of efficacy,Uraemia,Hyperphosphataemia,Weight loss	Other	SLEE for Lepto A dog was vaccinated against leptospirosis on a regular basis first with Nobivac Lepto, then on 04 Dec 2013 and on 15 Dec 2014 with Nobivac L4 (Nobivac L4 was not boosted 4 weeks after first vaccination= no basic immunization). Additionally, the dog was concomitantly vaccinated with Nobivac Pi on the same day, 15 Dec 14. On the day of vaccination the dog made a normal fit impression, but had lost weight (according to the vet "was emaciated"). Therefore, also bloods were taken on the day of vaccination. Blood results showed uremia (Crea 4.3 mg/dl; Ref: <1.4 mg/dl; Protein/Crea-quotient elevated). Kidneys were examined per ultrasound without findings by a vet colleague. This colleague had suspected Leptospirosis, therefore Leptospirosis-titres were measured on 14 Feb 15. Titres for canicola, copenhagen and australis were 1:100 (which the vet considers as "borderline values"), for grippityphosa, bataviae and cavalesco were negative. The dog additionally now (not known since when exactly) has a hyperphosphatemia. The vet is trying to determine the cause for the uremia and therefore thinks it might be Leptospirosis. The dog continues to be symptom free otherwise and is under treatment with Amoxiclav. An ACE inhibitor was tried but rather worsened the blood values, therefore was stopped. Special diet was discussed with the owners. We recommended to test Leptospirosis titres a second time for better evaluation. The vet will contact us again only if new results are available. Therefore, case will be closed and only reopened if significant new information is received. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI 10X1D5 620 Reason: Unknown.] [State of health: Fair]	Labrador Retriever	Not Known	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once 1 Animal (15/12/2014-15/12/2014) Nobivac Pi - 1N/A/N/A, 24.1 Dose Once 1 Animal (15/12/2014-15/12/2014) 	N - Unlikely
NOBIVAC L4	DE-NLINTVINT-2015-DE-00243	Germany	Animal	Canine/dog	8 Year(s)	27/02/2015	09/04/2015	1	1	0	27/02/2015	Yes, R> Not Known	Lymphoma,Swollen lymph node,Vomiting	No Data	Reason for treatment: Vaccination/ Lameness and associated problems Suspected Adverse Reaction: A dog was vaccinated with Nobivac L4 on 27 Feb 2015. After approx. 1 week, the dog developed a generalized lymph node swelling. On the day of the vaccination, the dog had shown a good general condition, but according to preliminary report it had again and again lamenesses and had more and more problems to stand up. Therefore, additionally Rimaday-tablets were handed out and administered by the owner on the same day. However, the dog didn't tolerate these well (according to the vet) and vomited (unknown when exactly and if the tablets were discontinued then). On 06 Mar 2015, the dog was presented in the practice, as the previous day, a swelling in the neck area had been noted. The vet noted a lymph node swelling at the mandibular-, shoulder- and popliteal-lymph nodes. The general condition was still undisturbed. X-ray of the thorax was without special findings, palpation of the abdomen was inconspicuous. Additional info: the bitch had once a mammary tumor. Blood test was without special findings (leucocytes, erythrocytes and thrombocytes were rather in the lower normal range), organ-values were without special findings. Cytological examination of the lymph nodes is still outstanding. Attending vet's causality assessment: unclassifiable. Start / Duration of symptoms: approx. 05 Mar 2015 / ongoing. Follow-up information is expected. Follow up from 20 Mar 2015: Cytological results revealed a malignant lymphoma. The dog is now receiving chemotherapy. The vet therefore excludes a causal relation to the vaccination. Case closed. Note: the case has become serious since the follow-up information from 20 Mar 2015. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination Generic: Brand: Rimaday Reason: Lameness and associated problems] [State of health: Good]	German Shepherd Dog	Not Known	Nobivac L4 (PEI) - 1N/A/N/A, 24.1 Dose Once 1 Animal (27/02/2015-27/02/2015) Nobivac unknown Rimaday Tabletten - N/A/N/A, 24.1 Dose Once 1 Animal (27/02/2015-N/A) 	0 - Unclassifiable/unassessable
NOBIVAC L4	DE-NLINTVINT-2015-DE-00274	Germany	Animal	Canine/dog	5 Month(s)	16/03/2015	16/03/2015	1	1	0	16/03/2015	No, R> No, R> R> Yes	Anaphylaxis,Facial swelling (see also 'Skin'),Wheal,Itching	Other	SAR: Dog (Chihuahua) was vaccinated on 16 Mar 2015 (11:30 a.m.) with Nobivac L4 and Nobivac SHPP1 (ELU: simultaneous) and Nobivac T (concurrent). 3 hrs later: anaphylactic reaction, swelling of face, wheals on body. Dog presented to a vet clinic, therapy with Cortisone. In the afternoon: symptoms improved, just itching. Next day recovered. Case is linked to 2014-DE-064 and 095 (same vet, same product). Case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10X1D5 122 Reason: Vaccination Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 10X1D5 620 Reason: Vaccination] [State of health: Good]	Chihuahua	1.9	Nobivac L4 - 1N/A/N/A, 24.1 Dose Once 1 Animal (16/03/2015-16/03/2015) Nobivac SHPP1 - 1N/A/N/A, 24.1 Dose Once 1 Animal (16/03/2015-16/03/2015) Nobivac T - 1N/A/N/A, 24.1 Dose Once 1 Animal (16/03/2015-16/03/2015) 	B - Possible

NOBIVAC L4	DE-NLINTVINT-2015-DE-00276	Germany	Animal	Canine/dog	8 Week(s)	13/03/2015	09/04/2015	17	1	1	16/03/2015	Yes; R-> Yes	Somnolence,impaired vision,Neurological signs NOS,Seizure NOS,Spasm,Trembling,Abnormal breathing,Rattling chest,Death by euthanasia,Respiratory signs,Apathy,Blood loss NOS,Abnormal radiograph finding,Unresponsive to stimuli,NT-fibrinous (bronch) pneumonia/fibrinous pleuropneumonia	No Data	SAR: 17 puppies (Mixed breed: Golden Doodle) had been vaccinated on 13 Mar 2015 with Nobivac SHPPI and Nobivac L4 (concurrent use). In the morning of 16 Mar 2015 one dog showed abnormal breathing (rattled, gaped), blood came out of eyes and mouth. No foreign object found. X-ray: one lobe was collapsed; other lobe not well ventilated (diaphragm finding/respiratory sign). Therapy: Infusion, antibiotics, pain killer, anticonvulsant, prednisolone. In the evening of 16 Mar 2015: neurological symptoms, seizure (similar to epileptic seizure: while laying on the floor, it opened wide its mouth, stiffness (spasm) of extremities, trembling. Then dizzy, suspicion of blindness (ran against things/impaired vision). On 17 Mar 2015 nearly not responsive (to stimuli), somnolence. Euthanasia. Autopsy results pending. Follow-up from 09 Apr 15: Conclusion of the necropsy report: Main result and reason for death is a lobular fibrinous necrotizing pneumonia with focal catarrhal purulent lesions, therefore primary bacterial infection is the most likely cause. Because of antibiotic medication no specific bacteria could be isolated from the lung. A primary aerogenic-toxic noxious agent with secondary bacterial infection is also possible. There was no evidence for a causal relation between vaccination and the lung findings. Time to onset (3 days post vaccination) is too long for an anaphylactic or allergic reaction, also no eosinophils were found in the lung. Canine distemper virus infection was excluded by PCR. An additional finding was an enteral Salmonella infection. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	Golden Retriever	2	Nobivac L4 - 1N/A/N/A, 24,1 Dose Once (13/03/2015-13/03/2015) Nobivac SHPPI - 1N/A/N/A, 24,1 Dose Once (13/03/2015-13/03/2015) 	N - Unlikely	
NOBIVAC L4	DE-NLINTVINT-2015-DE-00280	Germany	Animal	Canine/dog	4 Year(s)	03/02/2015	18/03/2015	1	1	0	16/02/2015	No; R-> No; No; No; No	Mydriasis,Elevated liver enzymes,Swallowing disorder NOS,Thrombocytopenia,Vomiting, Miosis,Tongue paralysis,Fever,Horizontal nystagmus,Facial nerve disorder,Abnormal test result,Neurological symptoms NOS	Other	SAR: On 30 Dec 2014 dog had been vaccinated with Nobivac SHPPI, Nobivac L4, Nobivac T and non-company-product Canis B (Borrelia), simultaneous use (ELU). On 03 Feb 2015 the dog was revaccinated with Nobivac L4. On 16 Feb 2015 The dog was presented to vet with the following symptoms: fever 40.2°C, vomited once, therapy: Metamizol. On 17 Feb 2015 the dog was presented to vet again: no fever, but following neurological signs: tongue hanging out of the mouth, unable to swallow, cranial nerves V, VII, XII failure (no further sensibility in the face, reflexes of palpebrae and cornea failed). Blood test: 2 liver enzymes, amylase and specific canine pancreas lipase elevated (but improved in the meantime and no pancreas symptom). Ultrasound abdomen, x-ray, CT: normal. No Toxoplasmosis. Usual (inclusive): possibly degenerative process or inflammation or other reason. Nystagmus (horizontal). Miosis and mydriasis (alternating), thrombocytopenia (13 000), Cefalexin, Clindamycin, Vitamin B. Suspicion of the vet was meningoencephalitis. The vet was asking if the vaccine might have caused distemper-like symptoms. Case closed. Follow-up on 16 Nov 17: Product Problem type "Extra label use" added. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10XIDS 540 Reason: Unknown. Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 10XIDS 620 Reason: Unknown. Generic: Brand: Canis B (Borrelia) Reason: Vaccination] [State of health: Good]	Other Canine/dog	Not Known	Nobivac L4 - 1N/A/N/A, 24,1 Dose Once (03/02/2015-03/02/2015) Nobivac SHPPI - 1N/A/N/A, 24,1 Dose Once (30/12/2014-30/12/2014) Nobivac T - 1N/A/N/A, 24,1 Dose Once (30/12/2014-30/12/2014) Nobivac Virbagen canis B - 1N/A/N/A, 24,1 Dose Once (30/12/2014-30/12/2014) 	O - Unclassifiable/unassessable	
NOBIVAC L4	DE-NLINTVINT-2015-DE-00307	Germany	Animal	Canine/dog	17 Month(s)	08/01/2015	26/03/2015	1	1	0	08/01/2015	No; R-> No	Pale mucous membrane,Hypothermia,Anaphylactic shock,Lateral recumbency,Unresponsive to stimuli	Other	Suspected Adverse Reaction: A dog (Yorkshire-Mix) was vaccinated on 08 Jan 2015 with Nobivac SHPPI and Nobivac L4 (mixed; extra-label use). After 10 minutes, the dog was not responsive anymore, in lateral position, had white mucosae, hypothermia, showed anaphylactic shock, the condition was life-threatening. Intensive shock-treatment was performed, among others with highly dosed prednisolone. After 45 minutes, the dog was doing clearly better again. Still on the same day, it was okay again. Additional info: the dog had previously been vaccinated with product from another company. No more information expected, case closed. Note: the vet reported a similar case in another dog (Pinscher-Mix) which is entered as 2015-DE-00308. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10XIDS 540 Reason: Unknown.] [State of health: Good]	Yorkshire Terrier	4,3	Nobivac L4 - 1N/A/N/A, 24,1 Dose Once 1 Animal (08/01/2015-08/01/2015) Nobivac SHPPI - 1N/A/N/A, 24,1 Dose Once 1 Animal (08/01/2015-08/01/2015) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2015-DE-00308	Germany	Animal	Canine/dog	6.5 Year(s)	12/03/2015	26/03/2015	1	1	0	12/03/2015	No; R-> No	Vomiting,Facial swelling (see also 'Skin')	Other	Suspected Adverse Reaction: A dog (Pinscher-Mix), born on 13 Aug 2008 and since then vaccinated yearly with vaccine from another company, was vaccinated on 12 Mar 2015 with Nobivac SHPPI and Nobivac L4 (mixed; extra-label use). After 1 hour, it vomited several times, had massive facial swelling. Shock-treatment was performed, amongst others with highly dosed prednisolone, and on the same day the dog was okay again. No more information expected, case closed. Note: the vet reported a similar case in another dog (Yorkshire-Mix) which is entered as 2015-DE-00307. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	German Pinscher	5	Nobivac L4 - 1N/A/N/A, 24,1 Dose Once 1 Animal (12/03/2015-12/03/2015) Nobivac SHPPI - 1N/A/N/A, 24,1 Dose Once 1 Animal (12/03/2015-12/03/2015) 	B - Possible	
NOBIVAC L4	DE-NLINTVINT-2015-DE-00310	Germany	Animal	Canine/dog	6 Year(s)	04/12/2014	25/03/2015	1	1	1	11/12/2014	Yes; R-> Yes	Lymphoma,Death by euthanasia,Breathing difficulty,Swollen lymph node	No Data	Susp Adverse Reaction: On 04 Dec 2014 a dog was vaccinated with Nobivac L4 and Nobivac PI. One week later (11 Dec 14) the dog had swollen lymph nodes (especially mandibular and popliteal). Result of a biopsy made was malignant lymphoma. The dog was treated with Prednisolone without improvement. The tumors grew further until the dog showed beginning breathing difficulties, because it was pressing on the trachea. Therefore, the dog was euthanized on 24 Dec 2014. Further diagnostics were not wanted by the owner. The owner suspects a causal relation between the vaccination and the lymphoma, the vet sees no connection, but wanted to ask us for our experience. Medical History: In 2012 positive Borrelia titre and beginning renal insufficiency was found. The dog was then treated with high-dose Amoxicillin/davulanic acid. Thereafter, the values were stable. Since then, Urea and Creatinine were always a bit above reference level. The dog was given a special diet and was doing fine with it. No more information expected. [Reason for use for product: Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI 10XIDS 620 Reason: Unknown.] [State of health: Good]	Bernese Mountain Dog	44,3	Nobivac L4 - 1N/A/N/A, 24,1 Dose Once 1 Animal (04/12/2014-04/12/2014) Nobivac PI - 1N/A/N/A, 24,1 Dose Once 1 Animal (04/12/2014-04/12/2014) 	N - Unlikely	
NOBIVAC L4	DE-NLINTVINT-2015-DE-00346	Germany	Animal	Canine/dog	16 Month(s)	30/03/2015	07/04/2015	2	1	0	30/03/2015	Yes; R-> Yes; Yes	Dullness,Urticaria	No Data	Suspected Adverse Reaction: A dog (race: Rhodesian Ridgeback) was vaccinated with Nobivac SHPPI, Nobivac L4 and Nobivac T on 30 Mar 2015. Approx. 1 hour after the vaccination, the dog showed a high-grade, generalized urticaria. It was treated with prednisolone and after approx. 4 hours the dog improved but was still slightly dizzy(coded as dullness). It fully recovered. The vet described the event as strong vaccination reaction. A second dog (race: Magyar Vizsla) was also vaccinated with Nobivac SHPPI, Nobivac L4 and Nobivac T without showing adverse reactions. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC SHPPI 10XIDS 122 Reason: Vaccination Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50XIDS 540 Reason: Unknown. Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 50XIDS 620 Reason: Unknown.] [State of health: Good]	Rhodesian Ridgeback	40	Nobivac L4 - 1N/A/N/A, 24,1 Dose Once 1 Animal (30/03/2015-30/03/2015) Nobivac SHPPI - 1N/A/N/A, 24,1 Dose Once 1 Animal (30/03/2015-30/03/2015) Nobivac T - 1N/A/N/A, 24,1 Dose Once 1 Animal (30/03/2015-30/03/2015) 	B - Possible	

NOBIVAC L4	DEU-MERCKMSD-2016-DE-00567	Germany	Animal	Canine/dog	8 Week(s)	28/04/2016	20/05/2016	2	1	1	29/04/2016	No, No R No	Shock,udden death,Cutaneous necrosis,Muscle necrosis	Unauthorised dosage; other	Suspected adverse reaction: On 28 Apr 2016 (approx 7.30 p.m.) 2 puppies were vaccinated with Nobivac SHPI and Nobivac L4 simultaneously for the first time. The next morning (approx 7.30 a.m.) one of the puppies was found dead without any other symptoms. A postmortem examination was initiated. Not during the injection of the mixed vaccine, the puppy moved and the needle detached from the syringe, so that approx half of the vaccine squirted out. Therefore, a second dose was mixed and approx half of the amount was injected. The affected puppy had shown no abnormalities in clinical examination before vaccination, but had always been less active and slightly calmer than the second puppy. The second puppy showed no reaction after vaccination. FU expected. FU 20 May 16: Diagnosis of pathological examination: death most probably caused by shock event, as well as a high-grade, extensive acute subcutaneous tissue and muscle necrosis, without indication of inflammatory changes or bacterial infection. These changes are presumably caused by the injections. As far as examination post mortem allows to tell, there were no previous impairments of the organs. Case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC SHPI 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination] [State of health: Good]	German Hunting Terrier	Not Known	Nobivac L4 - 1,N/A/N/A, 24,once (28/04/2016-28/04/2016) Nobivac SHPI - 1,N/A/N/A, 24,once (28/04/2016-28/04/2016) 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2016-DE-00590	Germany	Animal	Canine/dog	13 Week(s)	04/05/2016	04/05/2016	1	1	0	04/05/2016	No, B R Yes, = = Yes, = = Yes	Trembling,Vomiting	No Data	Suspected Adverse Reaction: On 04 May 2016 a Chihuahua puppy (13 weeks old) was vaccinated with Nobivac SHP, Nobivac L4, and Nobivac T subcutaneously and Nobivac BBPI intranasally for the first time (previous vaccinations were done with non-company vaccines). Nobivac BBPI was given by another vet from the clinic, the other vaccines were given by the reporting vet. Approx 45 minutes after vaccination the puppy vomited 7 or 8 times and was trembling. The dog was treated with infusion for 2 hours, MCP and Ranitidin, thereafter recovered. Note: Nobivac BBPI vaccine had expired at the time of vaccination (Nov 2015), therefore the vet especially suspected this vaccine to be responsible for the reaction. Case closed. [Reason for use for product: Generic: BB CANINE / PL LBL LV Brand: NOBIVAC BBPI 5X1D5+5X1D5 DIL 122 Reason: Vaccination Generic: DHP LV Brand: NOBIVAC SHP 10X1D5 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination Generic: RABIES IN ALU ADIUVANT KV Brand: NOBIVAC T 10X1D5 620 Reason: Vaccination] [State of health: Good]	Chihuahua	1.4	Nobivac BBPI - 1,N/A/N/A, 24,1 x 1 dose (04/05/2016) Nobivac L4 - 1,N/A/N/A, 24,1 x 1 dose (04/05/2016) Nobivac SHP - 1,N/A/N/A, 24,1 x 1 dose (04/05/2016) Nobivac T - 1,N/A/N/A, 24,1 x 1 dose (04/05/2016) 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2016-DE-00602	Germany	Animal	Canine/dog	3 Month(s)	04/05/2016	09/05/2016	1	1	0	04/05/2016	Yes, B R Yes, = = Yes	Facial swelling (see also Skin),Quincke's oedema,Breathing difficulty,Respiratory tract disorder NOS,Foam in the mouth	No Data	Suspected adverse reaction: One dog (Pudel Mix) was vaccinated with Nobivac SHPI, L4, T simultaneously by the reporting vet on 04 May 16. Approx 1 hour later the owner called the vet because dog showed swelling on its face, ears and eyes, basically the whole head was swollen. Saliva was foamy/blistered, which according to the reporting vet was a sign for swelling of the respiratory tract. The owner also stated that the dog had breathing difficulty. The owner administered one tablet of cortisone (tablet was left over from a previous owned dog). Thereafter the dog recovered visibly and after a few hours (exact time unknown) the dog was fine again. The dog was not presented to the reporting vet. Case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC SHPI 10X1D5 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination Generic: RABIES IN ALU ADIUVANT KV Brand: NOBIVAC T 10X1D5 620 Reason: Vaccination] [State of health: Good]	Standard Poodle	7.9	Nobivac L4 - 1,N/A/N/A, 24,1 Dose (04/05/2016-04/05/2016) Nobivac SHPI - 1,N/A/N/A, 24,1 Dose (1 Day)(04/05/2016-04/05/2016) Nobivac T - 1,N/A/N/A, 24,1 Dose (04/05/2016-04/05/2016) 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2016-DE-00621	Germany	Animal	Canine/dog	3 Year(s)	10/05/2016	30/05/2016	1	1	0	10/05/2016	Not known, B >BR> = = Yes, = = Not known	Facial swelling (see also Skin),Breathing difficulty	Not known	Reason for treatment: vaccination and deworming Suspected adverse reaction: On 10 May 16 (morning) a dog was vaccinated with Nobivac SHPI and Nobivac L4 simultaneously. In the evening of the same day, the dog showed progressive facial swelling, later also breathing difficulties due to swelling of the nose. The owner contacted an emergency vet by phone who recommended to monitor the dog without treatment. The next day the dog was presented to the attending vet, no more breathing difficulty, but face still swollen. Treatment with Prednisolone, thereafter quick recovery. Note: The dog also received Profender tablets (dosage unknown) for deworming on the day of vaccination in the afternoon. Case closed. Additional information added by MAH (Bayer) from a duplicate case number DEBAYERBAH-2016-342584 (Report 342584): On 2016-05-10 in the morning, one Dachshound crossbred dog (9.8kg, 3 years, unknown sex) in good physical condition, with no concomitant disease, was immunized with a vaccine from MSD (first time), by the reporting veterinarian (unknown whether according to label). The owner was given one tablet of Profender for medium sized dogs (9-19kg; Emodepsid and Praziquantel) for deworming and administered this orally two hours later at home (also first time; unknown whether with food or in fasted condition, MDR-1 status unknown, dog most likely a Dachshound / Pincher crossbred). In the afternoon of the same day, the owner discovered that the whole head of the dog was swollen (including ears, face etc.). As the dog also developed laboured breathing, the owner called the emergency veterinary service and they suggested to go to the surgery the next day. No information about any potential local sting and/or oral intake of allergens was reported. On 2016-05-11 the dog was injected with Prednisolone, once and recovered. Bayer MAH comment: The product name changed to Profender tab 10 kg and time to onset entered less 12 hours. Reason for Treatment: vaccination and deworming State of health at time of treatment: good [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC SHPI 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination Generic: Brand: Profender Tabletten Hund Reason: Deworming] [State of health: Good]	Crossbred	10	Nobivac L4 (PE) - 1,N/A/N/A, 24,once (10/05/2016-10/05/2016) Nobivac SHPI (PE) - 1,N/A/N/A, 24,once (10/05/2016-10/05/2016) Nobivac T - 1,N/A/N/A, 24,once (10/05/2016-10/05/2016) Profender Tabletten für mittelgroße Hunde - 1,N/A/N/A, 24,once (10/05/2016-10/05/2016) 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2016-DE-00678	Germany	Animal	Canine/dog	10 Year(s)	10/05/2016	17/05/2016	1	1	0	14/05/2016	Yes, B R Yes	Eosinophilia,Leucocytosis,Lymphoma,Fever,Breathing difficulty,Elevated AST,Elevated ALT,General illness,Elevated lactic acid dehydrogenase (LDH),Food refusal,Enlarged lymph node (localised)	No Data	Suspected adverse reaction: One dog was vaccinated with Nobivac L4 and Nobivac T (concomitantly) on 10 May 16. During the weekend (14-15 May 16) the dog was doing bad, had fever at 39.5 °C, stopped eating, strong swelling of all lymph nodes occurred, first noted at the neck, then generalized. According to the vet it looked like a multi-centric lymphoma in the final state, the dog also had breathing problems. Blood examination revealed increased transaminase (GOT, GPT), as well as elevated LDH, leukocytosis and eosinophilia. As therapy, the lymph nodes were punctured, treatment with antibiotic and high dose Cortisone. Laboratory cytological examination initiated. The vet will inform us if relevant new information should become available. Otherwise case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination Generic: RABIES IN ALU ADIUVANT KV Brand: NOBIVAC T 50X1D5 620 Reason: Vaccination] [State of health: Good]	Crossbred	30	Nobivac L4 - 1,N/A/N/A, 24,once (10/05/2016-10/05/2016) Nobivac T - 1,N/A/N/A, 24,once (10/05/2016-10/05/2016) 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2016-DE-00691	Germany	Animal	Canine/dog	5 Year(s)	22/04/2016	06/06/2016	1	1	0	22/04/2016	Yes, B R Yes, = = Yes	Allergic oedema,Reddening of the skin,Inappetence,Breathing difficulty,Face and neck swelling (see also Skin),Emissis (multiple)	No Data	Suspected adverse reaction: One dog was vaccinated with Nobivac SHPI, Nobivac L4 simultaneously and Nobivac T concurrently on 22 Apr 16 by the reporting vet. Approx 15 to 20 min later the dog showed edematous swelling and skin reddening of his head and neck as well as breathing difficulties. Treatment with Cortisone in vet practice. Released back home and after 1.5 hours the owners reported that the dog was improving but was vomiting. The next morning the dog vomited twice, and had no appetite. On 24 Apr 16 the dog was fine again. On 21 May 16 the attending vet booster vaccinated the dog with Nobivac L4 without any complaints. Note: attending vet states that this dog in general has breathing difficulties because of his breed (breeding for unhealthy traits) and his obesity. Case closed. Follow up 06 Jun 16: The reporting vet provided the missing batch numbers. Case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC SHPI 50X1D5 620 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1D5 540 Reason: Vaccination Generic: RABIES IN ALU ADIUVANT KV Brand: NOBIVAC T 50X1D5 620 Reason: Vaccination] [State of health: Good]	Pug	14.1	Nobivac L4 - 1,N/A/N/A, 24,once (22/04/2016-22/04/2016) Nobivac SHPI - 1,N/A/N/A, 24,once (22/04/2016-22/04/2016) Nobivac T - 1,N/A/N/A, 24,once (22/04/2016-22/04/2016) 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2016-DE-00864	Germany	Animal	Canine/dog	8 Week(s)	20/05/2016	01/06/2016	1	1	0	28/05/2016	Not known, B >BR> = = Not known	Lack of efficacy	Not known	SLEE: A puppy, 8 weeks old, was vaccinated on 20 May 2016 with Nobivac SHPI and Nobivac L4 (concomitant use). On 28 May 2016 the dog was given to new owner, who reported this case. The dog showed low grade diarrhoea (unshaped). On 29 May 2016 vomiting, watery diarrhoea. Forwarded to vet clinic, faeces positive Parvovirus tested in a laboratory. Owner asked for medical advice. Case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC SHPI 10X1D5 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 540 Reason: Vaccination] [State of health: Unknown]	Other Canine/dog	Not Known	Nobivac L4 - N/A/N/A, N/A/N/A, 20/05/2016-20/05/2016) Nobivac SHPI - 1,N/A/N/A, 24,1 Dose (20/05/2016-20/05/2016) 	N - Unlikely

NOBIVAC L4	DEU-MERCKMSD-2017-DE-01491	Germany	Animal	Canine/dog	14 Month(s)	19/06/2017	07/11/2017	1	1	0	28/06/2017	Yes; Yes	Restlessness,Excitation,Elevated C-reactive protein,Basophilia,Walking difficulty,Incoordination,Unsteady gait,Increased sensitivity to sound,Apathy,Urination,Abnormal menace reflex test,Elevated temperature,Thrombocytopenia,Involuntary defecation,Convulsion,Ataxia,Trembling,Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Localised pain NOS (see other 'SOCs' for specific pain)	No Data	SAR: On 19 Jun 2017 a dog (breed: German Pinscher) was vaccinated with Nobivac SHPPI and Nobivac L4 for the first time. Previous vaccination (10 Jun 2016) had been performed with non-company vaccine(s). On 29 Jun 2017 the dog was presented to the reporting vet due to restlessness, trembling / tremor, uncoordinated walking (ataxia) / splayed legs, and apathy, which had begun one day before (28 Jun). Additionally, the dog showed oestrus symptoms (not coded). Veterinary examination revealed elevated body temperature (39.1 °C) and pain at the vertebral column including neck area. Examination of cranial nerve function and abdomen was without findings. A meningococcal infection was suspected as well as breed-related reaction to vaccination. Blood examinations were performed. Results: mild thrombocytopenia of 112 G/l (ref: 143-448 G/l), high-grade basophilia 232 / l (ref: 0-100 / l), elevated CRP (C-reactive protein) 24.1 ng/l (ref: 0-10.7 mg/l). Real-time-PCR for distemper virus RNA was negative. Treatment was started with Dexamethasone injection, continued by Prednisolone oral therapy, Vit B12 tablets, and an antibiotic (Synulox). At first the dog was doing better, was well during the evening and night, however, next day (30 Jun), during a walk the dog showed tremor and collapsed with involuntary urination and defecation, also reported by the vet as convulsions. In the vet practice the dog was responsive, vital signs normal, but showed tremor, ataxia, unsteady gait, splayed legs, menace reflex was reduced but vision not impaired, sensitive to noise, nervous. Sedation / general anaesthesia with Midazolam i.v. and Propofol, as well as treatment with Luminal (Phenobarbital) injection, infusion, oxygen. New blood examinations showed no abnormal results (all values back to normal, only CRP not tested). The dog was intensively treated (additional medication to above mentioned: Vit E, folic acid) in the vet clinic until 03 Jul 2017 then was released home. CRP had also been back to normal on that day. At the time of reporting the dog was still under treatment, but stable. Case closed. FU from 07 Nov 2017: The owner reported via phone call, that her dog had recovered again after long duration of treatment (approx. end of Sep 17). No other vaccinations other than the already reported ones were administered (first vaccination with Veriscan Plus DHPPi on 10 Jun 2016, second vaccination with Nobivac SHPPI and Nobivac L4 on 19 Jun 2017). PCR for distemper virus RNA had been tested via a conjunctival swab sample. Case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC SHPPI 50XIDS 620 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination] [State of health: Unknown]	German Pinscher	13.2	Nobivac L4 - 1N/AN/A, 24.1 Dose Not applicable 1 Animal (19/06/2017-19/06/2017);BR> Nobivac SHPPI - 1N/AN/A, 24.1 Dose Not applicable 1 Animal (19/06/2017-19/06/2017);BR> 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2017-DE-01521	Germany	Animal	Canine/dog	3 Month(s)	30/06/2017	11/07/2017	1	1	0	30/06/2017	Yes; Yes	Emesis,Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Injection site pain	No Data	Suspected adverse reaction: 1 puppy (age at time of vaccination: 8 weeks, breed: Koikerhondje) was vaccinated with Nobivac SHPPI and Nobivac L4 simultaneously on 30 Jun 17 by the reporting vet. 2 minutes after vaccination the dog showed circulatory collapse and emesis. Therapy initiated with infusion. Fast recovery within the following hour. For the following 1-2 days the dog showed painfulness at injection site. On approx 02 Jul 17 the dog was recovered again. Case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC SHPPI 50XIDS 620 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination] [State of health: Good]	Other Canine/dog	4.6	Nobivac L4 - 1N/AN/A, 24.0nce (30/06/2017-30/06/2017);BR> Nobivac SHPPI - 1N/AN/A, 24.0nce (30/06/2017-30/06/2017);BR> 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2017-DE-01525	Germany	Animal	Canine/dog	11 Year(s)	29/05/2017	11/07/2017	1	1	0	29/05/2017	Yes; B	Circling - neurological disorder (see also 'Behavioural disorders'),Disorientation,Elevated temperature,Lethargy (see also Central nervous system depression in 'Neurological'),Hypersalivation	No Data	Suspected adverse reaction: 1 dog was vaccinated with Nobivac SHPPI and Nobivac L4 (unknown if simultaneously or concurrently) on 29 May 2017 by the reporting vet. A few hours later on the same day the owner called to report that the dog showed some form of "left hand twist", lethargy, elevated temperature (no exact value available), hypersalivation, and disorientation for 1 day. Attending vet's level is probable = A. Note: the dog is a diagnosed thyroid patient who receives treatment. No further examination, diagnostics and therapy performed. Case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC SHPPI 50XIDS 620 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination] [State of health: Unknown]	Beagle	14.4	Nobivac L4 - 1N/AN/A, 24.1 Dose Not applicable 1 Animal (29/05/2017-29/05/2017);BR> Nobivac SHPPI - 1N/AN/A, 24.0nce (29/05/2017-29/05/2017);BR> 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2017-DE-01530	Germany	Animal	Canine/dog	16 Year(s)	26/01/2017	14/07/2017	1	1	0	26/01/2017	Yes; B	Abnormal breathing,Allergic reaction,Facial swelling (see also 'Skin')	No Data	Suspected adverse reaction: 1 puppy was booster vaccinated with Nobivac L4, Nobivac T and Virabagen Parvo concurrently on 26 Jan 17 (age: 16 weeks). Approx 1.5 hours after vaccination the dog was represented to the vet with an allergic reaction (head and facial swelling, breathing stertorously). Therapy initiated with Solu-decortin injection, thereafter improvement. Further therapy was not necessary and the dog was recovered on 26 Jan 17. Attending vet's level of suspicion is probable = A. Note: Previous basic immunisation at the age of 12 weeks with Nobivac SHPPI, Nobivac L4 and Nobivac T was tolerated well. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC T 50XIDS 620 Reason: Vaccination Generic: Virabagen Parvo Reason: Vaccination] [State of health: Good]	Other Canine/dog	Not known	Nobivac L4 - 1N/AN/A, 24.0nce (26/01/2017-26/01/2017);BR> Nobivac T - 1N/AN/A, 24.0nce (26/01/2017-26/01/2017);BR> Virabagen Parvo - 1N/AN/A, 24.1 Dose Unknown 1 Animal (26/01/2017-26/01/2017);BR> 	B - Possible
NOBIVAC L4	DEU-MERCKMSD-2017-DE-01600	Germany	Animal	Canine/dog	4 - 5 Month(s)	01/05/2017	26/06/2017	1	1	0	01/05/2017	Yes	Anaphylactic-type reaction,Circulatory collapse (see also 'Neurological' and 'Systemic disorders')	No Data	Suspected adverse reaction: 1 dog was booster vaccinated with Nobivac L4 at the end of May / beginning of June 2017 (exact treatment date unknown) by the reporting vet. Seconds (for case entry reasons 5 seconds chosen) after vaccination the dog showed an anaphylactic like reaction and collapsed, but without breathing difficulties. The attending vet immediately injected Cortisone and after approx. 15 min the dog was recovered again. Attending vet's level of suspicion is probable = A. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Booster vaccination] [State of health: Unknown]	Medium size Poodle	Not known	Nobivac L4 - 1N/AN/A, 24.0nce (01/05/2017-01/05/2017);BR> 	A - Probable
NOBIVAC L4	DEU-MERCKMSD-2017-DE-01610	Germany	Animal	Canine/dog	13 Year(s)	01/01/2017	26/07/2017	1	1	0	20/07/2017	Not known	Lack of efficacy	Not known	SLEE for Lepto A vet reported about her own dog (Australian Shepherd, 13 years old), which had received yearly vaccinations with Nobivac L4 (exact dates unknown) and due to several illnesses / unclarified symptoms (see medical conditions) was now (approx 20 Jul) tested for leptospirosis antibody titres: bratislava 1:6400, copenhagen 1:200 australis 1:100, pomona 1:800 grippotyphosa 1:6400, saxkoebing 1:800, autumnalis negative, canicola negative (ref. value for all titres < 1:100). Therefore, a lack of efficacy of the vaccine was suspected. Medical conditions: On 23 Jun 2016 was treated due to a vestibular syndrome (nyctagmus) of approx 6 minutes duration. Similar signs were seen in the night of 12 / 13 Jul 2017 after one year without symptoms. Acute lumbar spine syndrome on 10 Jul 2017. Recurrent mild anemia in Jul 2016 and Jul 2017, regressing under treatment with Amoxicillin/ Clavulanic acid treatment. Coughing during nights, which has intensified since approx 4 weeks (cardiac condition was clarified but without findings), testicular tumor in 2015 was removed via castration. Borrelia, Ehrlichia, Anaplasma, Babesia all tested negative. No more information expected. Current outcome is unknown. Case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination] [State of health: Unknown]	Australian Shepherd Dog	25	Nobivac L4 - N/AN/A, 1 Years, 24, Unknown 1 Years Unknown (01/01/2017-01/01/2017);BR> 	O - Unclassifiable/unassessable
NOBIVAC L4	DEU-MERCKMSD-2017-DE-01723	Germany	Animal	Canine/dog	10 Year(s)	24/07/2017	08/08/2017	1	1	0	25/07/2017	No; B	Injection site swelling,Vomiting,Diabetes mellitus,Inability to stand,Anorexia,Abnormal test result,Allergic reaction,Elevated C-reactive protein,General illness,Hyperglycaemia	Other	Suspected adverse reaction: 1 dog which is known to have atopic skin diseases, was checked by the attending vet because it should be vaccinated soon. All blood values, also fructosamine and blood glucose, at this time had been normal. All atopic medications had been stopped at this time. To get a good immune response after vaccination. On 24 Jul 17 the dog was vaccinated with Nobivac SHPPI, Nobivac L4 and Nobivac T supposedly simultaneously (it is not clear, if the product was mixed in one syringe, contradictory information given, ELU treatment program not respected). On 25 Jul 17 dog showed vomiting, anorexia and reduced general health. On 26 Jul 17 the dog was presented to the attending vet due to ongoing symptoms and the dog was unable to stand and showed inflammatory swelling on injection site. The injection site swelling only lasted a few days. But the dog was forwarded to a vet clinic due to worsening of the other symptoms. An allergic reaction type 3 was diagnosed (immune complex-type, serum-type), with CRP (c-reactive protein) increased to 250 (unknown reference values). Blood glucose and fructosamine level were increased, so that the dog is now under treatment with insulin and a diabetes mellitus was diagnosed. Case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC SHPPI 50XIDS 620 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 540 Reason: Vaccination] [State of health: Good]	West Highland White Terrier	10	Nobivac L4 - 1N/AN/A, 24.0nce (24/07/2017-24/07/2017);BR> Nobivac SHPPI - 1N/AN/A, 24.0nce (24/07/2017-24/07/2017);BR> Nobivac T - 1N/AN/A, 24.0nce (24/07/2017-24/07/2017);BR> 	B - Possible

NOBIVAC L4	DEU-MERCKMSD-2018-DE-00160	Germany	Animal	Canine/dog	8 Week(s)	18/01/2018	20/02/2018	1	1	1	0	31/01/2018	Yes; R> Yes	Thrombocytopenia,Leucocytosis,Lymphopenia,Neutrophilia,Bloody diarrhoea,Inappetence,Lack of efficacy,Abnormal test result,Hypoalbuminaemia,Hyperphosphataemia,Hyperproteinuria,Hyperphosphataemia,Elevated BUN,Elevated creatinine,Decreased red blood cell count,Increased percentage reticulocytes,Decreased haemoglobin,Decreased packed cell volume (PCV),Elevated creatine kinase (CK),Elevated lactic acid dehydrogenase (LDH),Hyponatremia	No Data	SAR/SLEE: Initial report on 2 February. On 18 Jan 2018 approx. nine 8-week old puppies (all cases are entered separately but linked) were vaccinated with Nobivac SHPP1 and Nobivac L4 simultaneously. More details were received on 8 February 2018. On 31 Jan 2018 puppy "Pete" (6959) was presented with inappetence and bloody diarrhoea to the reporter. External lab values for this puppy showed leucocytosis 15.5 G/l (ref. 6-12 G/l), erythrocytopenia 3.98 T/l (ref. 4.9-8.83 T/l), too low haemoglobin 89 g/l (105-205g/l), decreased haematocrit 0.27 l/l (ref.0.3-0.58 l/l), thrombocytopenia 18 G/l (120-500 G/l), increased reticulocytes 63 G/l (ref. 0-60 G/l) increased segmental blood cells 89% (ref. 55-75%), lymphocytopenia 8% (ref.13-30%), increased neutrophils 13.79% (ul (ref. 3.000-9.000/u), increased LDH 92 u/l (ref.0-89 u/l), increased CK 343 u/l (ref. 0-170 u/l), elevated creatine 304 mmol/l (ref. 150-150 umol/l), urea 45.6 mmol/l (ref. 3.3-8.2 mmol/l), decreased sodium 139 mmol/l (ref. 140-155 mmol/l); increased potassium 5.8 mmol/l (ref. 3.5-5.2 mmol/l), increased phosphat 3.87 mmol/l (ref. 2.32-3 mmol/l), decreased albumin 18.7 g/l (ref. 28-46g/l); decreased total protein 43g/l (55-75g/l). Leptospira species DNA was detected. Puppy was treated with Ampicillin and no further specified medication against vomiting. EDTA PCR showed a Leptospira positive result. Conjunctiva was positive (PCR positive). AK titer for Leptospira were negative. The dog is doing fine. Case remains open. Further information expected. Case is linked to cases 2018-DE-00113; 2018-DE-00155; 2018-DE-00156; 2018-DE-00158; 2018-DE-00161; 2018-DE-00162; 2018-DE-00163 all puppies belong to the same litter. FU: 20th of February 2018: All puppies are doing well. Leptospira antibody test results were received for 7 animals. Three animals were tested positive for Leptospira g/ippotyphosa and Leptospira pomona, one of these three was positive as well for Leptospira Bratislava. The other 4 animals were tested negative for Leptospira antibodies. The allocation of the test results to the individual animals is not possible because this information was not provided by the reporter. Urine of the the breeding bitch was tested negative for Leptospira. According to scientific information it is not possible to detect vaccine strain of Nobivac L4 in blood, urine or conjunctiva samples with PCR methodology. Furthermore Leptospira pomona is not included in the Nobivac L4 vaccine which is a further indication for a field infection with Leptospira. No more information expected. Case closed. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	Irish Wolfhound	15	Nobivac L4 - 1N/A/N/A, 24,mixed in one syringe with SHPP (18/01/2018-18/01/2018) SHPP1 - 1N/A/N/A, 24,mixed in one syringe with L4 (18/01/2018-18/01/2018) 	N - Unlikely	
NOBIVAC L4	DEU-MERCKMSD-2018-DE-00161	Germany	Animal	Canine/dog	3 Month(s)	18/01/2018	08/02/2018	1	1	1	0	02/02/2018	Yes; R> Yes	Hypercalcaemia,Lack of efficacy,Hypoalbuminaemia,Increased percentage reticulocytes,Elevated creatine kinase (CK),Hyperphosphataemia,Lymphocytosis,Leucocytosis,Elevated lactic acid dehydrogenase (LDH),Neutrophilia	No Data	SAR/SLEE: Initial report on 2 February. On 18 Jan 2018 approx. nine 8-week old puppies (all cases are entered separately but linked) were vaccinated with Nobivac SHPP1 and Nobivac L4 simultaneously. More details were received on 8 February 2018. The puppy showed no clinical signs, but external lab values showed leucocytosis 18 G/l (ref. 6-12 G/l), increased reticulocytes 240 G/l (ref. 0-60 G/l), increased neutrophils 13.140 u/l (ref. 3.000-9.000/u), lymphocytosis 4.500 u/l (ref. 1.000 - 3.600 u/l), increased LDH 188 u/l (0-89 u/l), increased CK 398 u/l (ref. 0-170 u/l), hypercalcaemia 5.4mmol/l (ref. 3.5- 5.2), increased phosphate 3.15 mmol/l (ref. 2.32-3 mmol/l), decreased albumin 27.8 g/l (ref. 28-46g/l). Leptospira species DNA was negative. Case remains open. Further information expected. Case is linked to cases 2018-DE-00113; 2018-DE-00155; 2018-DE-00156; 2018-DE-00158; 2018-DE-00160; 2018-DE-00162; 2018-DE-00163 all puppies belong to the same litter. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	Irish Wolfhound	15	Nobivac L4 - 1N/A/N/A, 24,mixed in one syringe with SHPP (18/01/2018-18/01/2018) SHPP1 - 1N/A/N/A, 24,mixed in one syringe with L4 (18/01/2018-18/01/2018) 	O1 - Inconclusive	LEE: N
NOBIVAC L4	DEU-MERCKMSD-2018-DE-00162	Germany	Animal	Canine/dog	8 Week(s)	18/01/2018	08/02/2018	1	1	1	0	02/02/2018	Yes; R> Yes	Monocytosis,Elevated creatine kinase (CK),Increased percentage reticulocytes,Elevated lipase,Decreased red blood cell count,Elevated creatinine,Elevated BUN, Hypoproteinemia,Hypoalbuminaemia,Lack of efficacy,Neutrophilia,Lymphocytosis,Hyperphosphataemia	No Data	SAR/SLEE: Initial report on 2 February. On 18 Jan 2018 approx. nine 8-week old puppies (all cases are entered separately but linked) were vaccinated with Nobivac SHPP1 and Nobivac L4 simultaneously. More details were received on 8 February 2018. For puppy, external lab values showed decreased red blood cells 4.65 T/l (ref. 4.95 - 8.83 T/l), increased reticulocytes 202 G/l (ref. 0-60 G/l), lymphocytosis 21% (ref.13-30%), increased neutrophils 9.263 u/l (ref. 3.000-9.000/u), increased monocytes 9% (ref. 0-5%), increased lipase 111 u/l (0-71 u/l), increased CK 321 u/l (ref. 0-170 u/l), increased creatine 224 (ref. 0-150umol/l), increased urea 37.1 (ref. 3.2-8.2 mmol/l), increased phosphat 3.81 mmol/l (ref. 2.32-3 mmol/l), decreased albumin 23.2 g/l (ref. 28-46g/l); decreased total protein 50g/l (55-75g/l). Leptospira species DNA was negative. Leptospira antibodies negative. The littermates for positive for Leptospira. Case remains open. Further information expected. Case is linked to cases 2018-DE-00113; 2018-DE-00155; 2018-DE-00156; 2018-DE-00158; 2018-DE-00160; 2018-DE-00161; 2018-DE-00163 all puppies belong to the same litter. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	Irish Wolfhound	15	Nobivac L4 - 1N/A/N/A, 24,mixed in one syringe with SHPP (18/01/2018-18/01/2018) SHPP1 - 1N/A/N/A, 24,mixed in one syringe with L4 (18/01/2018-18/01/2018) 	O1 - Inconclusive	LEE: N
NOBIVAC L4	DEU-MERCKMSD-2018-DE-00163	Germany	Animal	Canine/dog	8 Week(s)	18/01/2018	08/02/2018	1	1	1	0	02/02/2018	Yes; R> Yes	Leucocytosis,Neutrophilia,Lack of efficacy,Hypoalbuminaemia,Hypercalcaemia,Hyperphosphataemia,Increased percentage reticulocytes,Elevated creatine kinase (CK),Elevated lactic acid dehydrogenase (LDH),Monocytosis	No Data	SAR/SLEE: Initial report on 2 February. On 18 Jan 2018 approx. nine 8-week old puppies (all cases are entered separately but linked) were vaccinated with Nobivac SHPP1 and Nobivac L4 simultaneously. More details were received on 8 February 2018. The puppy showed no clinical signs, but external lab values showed leucocytosis 15.1 G/l (ref. 6-12 G/l), increased reticulocytes 187 G/l (ref. 0-60 G/l), increased monocytes 8% (ref.0-5%), increased neutrophils 9.211 u/l (ref. 3.000-9.000/u), increased LDH 106 u/l (0-89 u/l), increased CK 399 u/l (ref. 0-170 u/l), increased potassium 5.6 (ref. 3.5-5.2 mmol/l), increased phosphat 3.63 mmol/l (ref. 2.32-3 mmol/l), decreased albumin 26.1 g/l (ref. 28-46g/l). Leptospira species DNA was negative. Leptospira antibodies negative. The littermates for positive for Leptospira. Case remains open. Further information expected. Case is linked to cases 2018-DE-00113; 2018-DE-00155; 2018-DE-00156; 2018-DE-00158; 2018-DE-00160; 2018-DE-00161; 2018-DE-00162 all puppies belong to the same litter. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	Irish Wolfhound	15	Nobivac L4 - 1N/A/N/A, 24,mixed in one syringe with SHPP (18/01/2018-18/01/2018) SHPP1 - 1N/A/N/A, 24,mixed in one syringe with L4 (18/01/2018-18/01/2018) 	O1 - Inconclusive	LEE: N
NOBIVAC L4	DEU-MERCKMSD-2018-DE-00174	Germany	Animal	Canine/dog	3 Month(s)	21/12/2017	12/02/2018	1	1	1	0	22/12/2017	Not known; R> Not known	Head tremor	Not known	SAR: One dog was vaccinated with Nobivac SHPP1 and Nobivac L4 on 21 Dec 2017 by the vet. This was the second vaccination, the dog has received the first vaccination (company unknown) four weeks before. It is unknown, if any signs occurred after first vaccination. One day later, on 22 Dec 2017, the dog showed periodic headtremor. The tremor occurred daily when the dog was in rest, however was to interrupt by distraction. The frequency of the tremor has decreased over the time. Six weeks after vaccination, the tremor occurs every one to two weeks. No more information expected, case closed. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Unknown]	Labrador Retriever	8.8	Nobivac L4 - 1N/A/N/A, 24,1 Dose Not applicable 1 Animal (21/12/2017-21/12/2017) SHPP1 - 1N/A/N/A, 24,1 Dose Not applicable 1 Animal (21/12/2017-21/12/2017) 	O1 - Inconclusive	
NOBIVAC L4	DEU-MERCKMSD-2018-DE-00225	Germany	Animal	Canine/dog	12 Week(s)	15/01/2018	27/02/2018	1	1	1	0	15/01/2018	Yes; R> Yes	Facial swelling (see also "Skin")	No Data	SAR: On 15 Jan 2018 an approx. 3 month old dog was vaccinated with Nobivac SHPP1 and Nobivac L4 simultaneously. It was the second vaccination. The product name of the first vaccination is unknown. 30 minutes after the vaccination (the dog was already at home) the face of the dog was swollen. The vet injected cortisone and the dog recovered right away. No more information expected. Case closed. [Reason for use for product: Generic: DHPP1 LV Brand: NOBIVAC SHPP1 10XIDS 122 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 540 Reason: Vaccination] [State of health: Good]	Crossbred	8.5	Nobivac L4 - 1N/A/N/A, 24,applied in one syringe with SH (1 Dose(s) 15/01/2018-15/01/2018) SHPP1 - 1N/A/N/A, 24,applied in one syringe with L4 (15/01/2018-15/01/2018) 	B - Possible	

NOBIVAC L4	DK-DKMA-V20180156	Denmark	Animal	Canine/dog	3 Month(s)	23/03/2018	04/04/2018	1	1	1	23/03/2018	Yes, R Yes	Angioedema,Sneezing,Eyelid edema,Anaphylactoid reaction	No Data	On 23-03-2018 a puppy (5 months, 3.16 kg) was vaccinated using Nobivac DHPII Vet. and Nobivac L4. The dog had previously been vaccinated with Nobivac DHPII Vet. without showing signs of an abnormal reaction, but this was the first time using Nobivac L4. The puppy was vaccinated around 15:30 without visible clinical problems. An hour later an allergic reaction was observed. The owner returns with the puppy who is sneezing and is swollen around the nose and eyelids. The veterinarian treats it by injecting dexalect 2 mg/ml and demastin 1mg/ml. After 20 minutes the symptoms are lessening.	Shih Tzu	3.16	Nobivac DHPII vet. - 1,N/A/N/A,N/A/N/A (23/03/2018) Nobivac L4 - 1,N/A/N/A,N/A/N/A (23/03/2018) 	B - Possible	close time link, anaphylactic reaction fits pharmacological profile, no concomitant medication, no other plausible explanation
NOBIVAC L4	DK-NLINTVINT-2014-DK-00075	Denmark	Animal	Canine/dog	1 Year(s)	21/05/2014	20/06/2014	1	1	0	21/05/2014	No, R No	Pale mucous membrane,Anaphylaxis,Lethargy (see also Central nervous system depression in 'Neurological')	Other	Suspected Adverse Reaction On 26 May 2014 a vet reports that she vaccinated an one year old pug with Nobivac DHPII and L4 mixed in the same syringe on 21 May 2014. Within 5 to 10 minutes after the vaccination the dog became weak and lethargic with very pale mucous membranes. The dog was treated with flumethyldisilone and ephedrine iv. The dog recovered from its anaphylactic signs within 1 hour. No further information expected [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII VET SX1DS-SX1DS DIL 201 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 552 Reason: Prophylaxis] [State of health: Good]	Pug	8	NOBIVAC DHPII VET SX1DS-SX1DS DIL 201 - 1,N/A/N/A, 24,1 Dose Once (21/05/2014) NOBIVAC L4 10X1DS 552 - 1,N/A/N/A, 24,1 Dose Once (21/05/2014) 	B - Possible	There is a time link, but two products that could cause AR.
NOBIVAC L4	DK-NLINTVINT-2014-DK-00112	Denmark	Animal	Canine/dog	9.9 Year(s)	23/07/2014	07/08/2014	1	1	0	24/07/2014	No, R No	Adipsia,Anorexia,Lethargy (see also Central nervous system depression in 'Neurological'),Fever,Dehydration	Other	Health: Good Suspected adverse reaction with Nobivac L4. The dog was vaccinated with Nobivac L4 and Nobivac PI simultaneously in one syringe the 23 Jul 2014. The next day the dog showed lethargy, anorexia and adipsia. The 25 Jul 2014 the dog was presented at the vet clinic again with signs of lethargy, dehydration and fever. The body temperature was measured to 40.4 degrees Celsius. The dog has been vaccinated previously with Nobivac PI but it was the first time that it was vaccinated with Nobivac L4. The dog was treated with Voren and Noromox and is expected to recover. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 552 Reason: Prophylaxis Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PI VET SX1DS-SX1V 200 Reason: Prophylaxis] [State of health: Good]	Other Canine/dog	31 - 31	NOBIVAC L4 10X1DS 552 - 1,N/A/N/A, 24,1 Dose Once 1 Animal (23/07/2014) NOBIVAC PI VET SX1DS-SX1V 200 - 1,N/A/N/A, 24,1 Dose Once (23/07/2014) 	B - Possible	There is a time link between the adverse reactions and the administration of the vaccine. Symptoms have been described previously, but as two products were administered concurrently the AR cannot be linked to a single product.
NOBIVAC L4	DK-NLINTVINT-2014-DK-00115	Denmark	Animal	Canine/dog	5 Year(s)	24/07/2014	18/08/2014	1	1	1	24/07/2014	Not known, > Yes, R Yes	Dullness,Involuntary defecation,Drooling,Convulsion,Nystagmus,Death,Urination,Urconscio us	No Data	Suspect adverse reaction. The dog was vaccinated with Nobivac L4 and Nobivac KC the 24 Jul 2014 at a clinic different from the attending vet clinic. The owner also got Bayvantic for the dog. The owner tells that the dog became dull, started drooling and had convulsive fits the same day. The symptoms exacerbated and the dog was presented at the attending vet's clinic 30 Jul 2014. The dog now had constant convulsions, nystagmus, was unconscious, defecated, urinated and finally died. Treatment with Stesolid (1 mg per kg body weight) did not have any effect. No more information expected. 06 Aug 2014. Contact between MSD and attending vet. Attending vet confirms that the dog was also treated with Bayvantic. Until that date it was unclear if the dog was treated or the owner just bought the product for later use. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 552 Reason: Prophylaxis Generic: BB CANINE / PI LB/LV Brand: NOBIVAC BBR SX1DS-SX1DS DIL 200 Reason: Unknown. Generic: Brand: Bayvantic Reason: Flea/tick control] [State of health: Good]	Labrador Retriever	38	Bayvantic - N/A,N/A,N/A,N/A,N/A (24/07/2014) NOBIVAC L4 10X1DS 552 - N/A,N/A,N/A,N/A,N/A (24/07/2014) 	O - Unclassifiable/unassessable	The dog was treated with bayvantic as well, so even though there is a link in time, a conclusion cannot be made on causality.
NOBIVAC L4	DK-NLINTVINT-2014-DK-00118	Denmark	Animal	Canine/dog	3 Month(s)	04/07/2014	25/08/2014	1	1	0	05/08/2014	Not known, > No, R No	Myoclonus,Lack of efficacy	Other	Suspected Lack of Expected Efficacy On 6 Aug 2014 a vet reports that a very unthrifty puppy imported from Romania to Hungary to Denmark has myoclonus in one hind leg. It is a 15 weeks old labrador weighing only 6 kilos, which is less than half size of a normal 15 weeks old labrador puppy. The puppy was vaccinated twice in Romania against parvo. In Denmark it was vaccinated with Nobivac DHPII and Nobivac L4 on 04 Jul 2014 by a vet different from attending vet. The puppy was unthrifty and had diarrhea at the day of vaccination, which makes it off label use of the vaccine. The vaccinating vet treated the puppy with amoxicillin and clavulanic acid against diarrhea. The puppy had diarrhea since it came to Denmark. The diarrhea never solved completely and the attending vet diagnosed a Giardia and Clostridium infection, and the dog was treated with metronidazole. The attending vet is observing increasing myoclonus of one hind leg, and she wonders if it can be a neurological sign of distemper, and she suspects that the puppy could have carried a distemper from Romania. The myoclonus was not treated. Follow-up 14 Aug 2014: On 13 Aug 2014 the dog is PCR positive for distemper. No more information is expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII VET SX1DS-SX1DS DIL 201 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 552 Reason: Prophylaxis Generic: Brand: Amoxicillin Reason: Diarrhoea] [State of health: Poor]	Labrador Retriever	6	Amoxicillin - N/A,N/A,N/A,N/A,N/A (01/07/2014) NOBIVAC L4 10X1DS 552 - N/A,N/A,N/A,N/A,N/A (01/07/2014) 	O - Unclassifiable/unassessable	
NOBIVAC L4	DK-NLINTVINT-2014-DK-00201	Denmark	Animal	Canine/dog	9 Week(s)	10/11/2014	21/01/2015	1	1	1	10/11/2014	Not known, > Not known	Death by euthanasia,Lethargy (see also Central nervous system depression in 'Neurological')	Not known	Suspected Adverse Reaction On 30 Dec 2014 a vet reports that she vaccinated a puppy with Nobivac DHPII and Nobivac L4 on 10 Nov 2014. The puppy had also a lot of fleas and was treated with a small amount of Frontline spray the same day by the owner. The puppy became lethargic the same evening, and was seen by the vet the next afternoon on 11 Nov 2014. It was treated with i.v. fluids and dexamethasone. On the third day the puppy was euthanized. No further information expected. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII VET SX1DS-SX1DS DIL 201 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 552 Reason: Unknown. Generic: Brand: Frontline Reason: Ectoparasitic control] [State of health: Good]	Chihuahua	0.45	Frontline - N/A,N/A,N/A,N/A,N/A (10/11/2014) NOBIVAC L4 10X1DS 552 - 1,N/A/N/A, 24,1 Dose Once (10/11/2014) 	O - Unclassifiable/unassessable	There is a time link, but several products have been used concomitantly. It is not clear whether this reaction, which most likely has occurred due to this medication, is caused by one or the other products, hence establishing a causality is not possible.
NOBIVAC L4	DK-NLINTVINT-2015-DK-00014	Denmark	Animal	Canine/dog	9 Year(s)	09/01/2015	06/02/2015	1	1	1	09/01/2015	Yes	Abdominal pain,Diarrhoea,Icterus,Polydipsia,Polyuria,Panting,Death by euthanasia,Anorexia,Hypothermia, Lethargy (see also Central nervous system depression in 'Neurological'),Dehydration,Shivering,Multiple organ haemorrhage,Bilirubinuria	No Data	Suspected Adverse Reaction On 27 Jan 2015 a vet reported that a dog was vaccinated with Nobivac L4 on 09 Jan 2015. Later the same night the dog became lethargic. The next day it was seen by another vet and the dog was feeling bad, shivering, had diarrhea and was panting. Temperature 39.3 C. Enhanced vesicular respiration by auscultation. Treated against acute inflammation with antibiotics and NSAID injectors. The treatment improved the dogs health shortly. On 13 Jan 2015 it is again lethargic and the mucosal surfaces are icteric. The feces is normal, but the dog has polyuria and polydipsia, and anorexia. Temperature 38.6 C. The dog is almost unable to walk, dehydrated, palpation shows pain in cranial abdomen. No abnormalities by auscultation of lungs and heart. Dark yellow urine, bilirubin in urine 3 to 4 plus. The vet recommends further investigation into a possible liver disease, but euthanasia is decided. Necropsy on 12 Jan 2015 shows bleeding and haematomas on serosal surface of the bladder, pancreas and intestines, especially jejunum and colon. No further macroscopic lesions, neither icteric changes except the icteric mucus observed before death. The dog was also vaccinated with Nobivac L4 on 11 Dec 2014 without problems. The dog was continuously treated with 16 mg methylprednisolone daily because of arthrotic pain. No further information expected [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 552 Reason: Prophylaxis] [State of health: Good]	Labrador Retriever	38.3	NOBIVAC L4 10X1DS 552 - 1,N/A/N/A, 24,1 Dose Once (09/01/2015-09/01/2015) 	B - Possible	The initial symptoms point at an anaphylactoid reaction considering that this was the second vaccination within one month. These symptoms may well have triggered underlying disease with worsening of clinical status, also considering that the dog was continuously treated with methylprednisolone. The assessment would have benefited from a microscopic evaluation.
NOBIVAC L4	DK-NLINTVINT-2015-DK-00029	Denmark	Animal	Canine/dog	7 Year(s)	19/09/2014	09/03/2015	1	1	0	19/09/2014	Not known, > Not known	Ataxia,Anorexia,Listless	Not known	Suspected Adverse Reaction On 17 Feb 2015 a vet reports that a dog was vaccinated with Nobivac DHPII and L4 (unknown if mixed or not) on 19 Sep 2014. According to the owner the dog was quiet when the dog came home after vaccination. The dog did not want to drink and eat. The dog was weakly and did not want to go outside. The symptoms persisted for 14 days, and then the dog recovered. The dog was not seen by a vet after vaccination. No further information expected [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC DHPII VET SX1DS-SX1DS DIL 201 Reason: Prophylaxis] [State of health: Good]	Crossbred	29	NOBIVAC DHPII VET SX1DS-SX1DS DIL 201 - 1,N/A/N/A, 24,1 Dose Once (19/09/2014) NOBIVAC L4 10X1DS 552 - 1,N/A/N/A, 24,1 Dose Once (19/09/2014) 	B - Possible	Association in time. Other causes cannot be excluded, underlying disease.

NOBIVAC L4	ES-NLINTVINT-2014-ES-00666	Spain	Animal	Canine/dog	2 Month(s)	07/10/2014	11/10/2014	1	1	1	0	08/10/2014	Yes R> Yes	Anaemia NOS,Leucopenia,Diarrhoea,Anorexia,Apathy,Hypoproteinaemia	No Data	SAR: The vet reports that on 7 Oct 2014, the dog was vaccinated with Nobivac DHP and Nobivac L4. Next day, the dog was showing apathy, so it was treated with anti-inflammatory drugs. The following day, the dog was also displaying diarrhoea, so it was hospitalized and treated symptomatically. Haemogram showed leukopenia, decreased proteins and decreased anaemia. On 12 Oct 2014, diarrhoea became severe, but was displaying anorexia. On 15 Oct 2014, blood and faeces samples were collected to be analyzed: parvovirus and intestinal parasites were ruled out. On 17 Oct 2014 the dog recovered. No further information is expected. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Crossbred	1,2	NOBIVAC DHP - 1,N/A,N/A ,24,1 Dose (07/10/2014-07/10/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (07/10/2014-07/10/2014)
NOBIVAC L4	ES-NLINTVINT-2014-ES-00693	Spain	Animal	Canine/dog	4 Year(s)	11/10/2014	26/10/2014	1	1	1	11/10/2014	Yes R> No	Death by euthanasia,Hypothermia,Hypoglycaemia,Hypoproteinaemia,Fluid in abdomen,NOS,Abnormal ultrasound finding,Anemia NOS,Hypotension,Bloody diarrhoea,Renal failure	Not Known	Suspected adverse reaction:The vet reports that on 11 Oct 2014, a dog was simultaneously vaccinated with Nobivac DHPPI and Nobivac L4. A few hours after vaccination, the dog was taken to the clinic since was displaying bloody diarrhoea (dark color). The vet administered antihistamine. A few hours later, the dog was showing hypothermia (34 degrees) and hypotension. Analysis showed slight anemia, hypoglycemia, decreased proteins and renal failure. Ultrasound finding: free fluid in the abdomen. Next day, the dog was euthanized. Necropsy was not performed. No further information is expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Yorkshire Terrier	4	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (11/10/2014-11/10/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (11/10/2014-11/10/2014) 	
NOBIVAC L4	ES-NLINTVINT-2014-ES-00730	Spain	Animal	Canine/dog	6 Year(s)	15/11/2014	18/11/2014	1	1	0	16/11/2014	No R> No	Lameness,Localised pain NOS (see other 'SOCs' for specific pain),Hind limb ataxia,Proprioception loss	Not Known	Suspected adverse reaction:The vet reports that on 15 Nov 2014, the dog was simultaneously vaccinated with Nobivac DHPPI and Nobivac L4. An antihistamine was administered prior to vaccination, since the last year, the dog had reacted to Nobivac Rabia (reported as case 2014 ES 00731) on 18 Nov 2014, the dog was showing ataxia and proprioception loss at the hind limbs, and cervical pain. Blood analysis were normal. The dog was treated with Urbason, dexamethasone and polaramine. In the afternoon, the dog also started to show lameness of left front limb. Noletil was added to the treatment. On 18 Nov 2014, the dog started to improve, but ataxia and proprioception loss have not disappeared yet. Awaiting more information about the health status of the dog. Follow up 7 Jan 2015: No contact with the vet, he told us that the dog was completely recovered by 15 Dec 2014. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Maltese	Not Known	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (15/11/2014-15/11/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (15/11/2014-15/11/2014) 	
NOBIVAC L4	ES-NLINTVINT-2014-ES-00744	Spain	Animal	Canine/dog	5 Month(s)	01/12/2014	02/12/2014	1	1	0	01/12/2014	No R> No	Pinnal oedema,Wheal,Papule,Conjunctival oedema,Swollen face (see also 'Skin'),Swollen lip (see also 'Skin'),Hypersensitivity reaction	Not Known	SAR: The vet reports that on 1 Dec 2014, the dog was vaccinated with Nobivac DHPPI and Nobivac L4 (mixed in the same syringe). 2 hours after vaccination, the dog was showing swollen face and lips, conjunctival oedema, oedema of the pinnae, and papules and wheals at the abdomen. The dog was treated with corticosteroids, and 6 hours later had improved a lot. The dog recovered fully next day. No further information is expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230. Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Maltese	Not Known	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (01/12/2014-01/12/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (10 VIALES) - 1,N/A,N/A ,24,N/A (01/12/2014-01/12/2014) 	
NOBIVAC L4	ES-NLINTVINT-2014-ES-00752	Spain	Animal	Canine/dog	1 Year(s)	09/12/2014	12/12/2014	1	1	0	09/12/2014	No R> No	Anaphylaxis,Erythema (for urticaria see Immune SOC),Papule,Hives (see also 'Skin'),swollen face (see also 'Skin')	Not Known	SAR: The vet reports that on 9 Dec 2014, the dog was simultaneously vaccinated with Nobivac DHPPI and Nobivac L4. 1 or 2 hours after vaccination, the dog was showing hives at the forehead, swollen face, facial erythema and papules at the chest. The dog was treated with Urbason and 90 minutes later had improved a lot. At night, the dog had completely recovered. No further information is expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230. Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Chihuahua	5	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (09/12/2014-09/12/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (09/12/2014-09/12/2014) 	
NOBIVAC L4	ES-NLINTVINT-2015-ES-00008	Spain	Animal	Canine/dog	3 Month(s)	16/12/2014	13/01/2015	1	1	0	16/12/2014	No R> No	Angioedema,Swollen face (see also 'Skin')	Not Known	Suspected adverse reaction:The vet reports that on 16 Dec 2014, the dog was simultaneously vaccinated with Nobivac DHPPI and Nobivac L4. On 13 Jan 2015, the owner called the vet saying that the dog had reacted to the vaccine 2 days after administration. The dog had to be taken to an emergency clinic, since was showing angioedema with swollen face. Unknown treatment. No further information is expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Crossbred	Not Known	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (01/01/2015-16/12/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (16/12/2014-16/12/2014) 	
NOBIVAC L4	ES-NLINTVINT-2015-ES-00187	Spain	Animal	Canine/dog	7 Month(s)	11/12/2014	20/04/2015	1	1	0	15/04/2015	Yes R> Yes	Abdominal pain,Lack of efficacy,Anorexia,Diarrhoea,Intussusception,Vomiting,Abnormal test result	No Data	Suspected lack of expected efficacy:The vet reports that the dog was vaccinated with Nobivac PuppyDP on 22 Oct 2014, with Nobivac DHPPI and Nobivac Lepto on 12 Nov 2014, and with Nobivac DHP and Nobivac L4 on 11 Dec 2014. On 20 April 2015, the dog was taken to the clinic, since it was showing anorexia and abdominal pain. The vet suspected that there could be a foreign body, but X-Ray was normal. Next day, the dog was showing vomiting and diarrhoea. Blood analysis were normal. Rapid test for Parvovirus-Coronavirus was carried out with a positive result for parvovirus. The patient was hospitalized, and symptomatic treatment was administered. On 22 April 2015, the dog was discharged. Blood and faeces samples will be collected to analyse. Awaiting the results. Follow-up 27 April 2015: The vet reports that the dog was born on 17 Sep 2014. Some data are rectified: first symptoms started on 15 Apr 2015, the dog was hospitalized on 17 Apr, and next day an intussusception was diagnosed and operated (the vet thinks this could be caused by a paralytic ileus due to parvovirus infection). Serological analysis was compatible with parvovirus infection. PCR for parvovirus was positive. Clostridium perfringens was ruled out. Awaiting more analysis results. Follow-up 30 Apr 2015: PCR was negative for Distemper and Coronavirus. Sequencing of CPV strain is pending. Follow-up 8 May 2015: Strain of CPV-2c was found. No further information is expected. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Beagle	12,5	NOBIVAC DHP - 1,N/A,N/A ,24,1 Dose (11/12/2014-11/12/2014) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (11/12/2014-11/12/2014) 	
NOBIVAC L4	ES-NLINTVINT-2015-ES-00249	Spain	Animal	Canine/dog	9 Year(s)	01/05/2015	05/05/2015	1	1	0	02/05/2015	Yes R> Yes	Palpebral oedema,Lip oedema (see also 'Skin'),Hives (see also 'Skin'),Anaphylactic-type reaction	No Data	Suspected adverse reaction:The vet reports that on 1 May 2015 he vaccinated the dog with Nobivac DHPPI and Nobivac L4. On 2 May 2015 the dog was taken to the emergency clinic showing lip and eye oedema and hives all over the body. It was treated with corticosteroids and recovered. Note: the dog had previously reacted (same kind of reaction) to other vaccines of other companies. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Other Canine/dog	Not Known	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (01/05/2015-01/05/2015) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (01/05/2015-01/05/2015) 	
NOBIVAC L4	ES-NLINTVINT-2015-ES-00258	Spain	Animal	Canine/dog	Not Known	10/04/2015	07/05/2015	4	2	0	10/04/2015	No R> No	Facial oedema,Anaphylactic-type reaction	Not Known	Suspected adverse reaction:The vet reports that on 10 April 2015, 4 puppies from the same litter were vaccinated with Nobivac DHPPI and Nobivac L4 (mixed in the same injection). Around 5 hours after vaccination, two of the dogs were showing facial oedema. There were no respiratory symptoms. Dogs were taken to emergency and treated with Urbason, and one of them recovered quickly. The other dog experienced a more severe reaction, and recovered 1 day later. No more information is expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose 1 Animal (10/04/2015-10/04/2015) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (10/04/2015-10/04/2015) 	
NOBIVAC L4	ES-NLINTVINT-2015-ES-00269	Spain	Animal	Canine/dog	3 Month(s)	30/03/2015	11/05/2015	1	1	0	06/05/2015	No R> Yes	Anaemia NOS,Leucopenia,Diarrhoea,Vomitin g,Aneorexia,Lack of efficacy,Abnormal test result	No Data	Suspected lack of expected efficacy:The vet reports that a Rottweiler pup was vaccinated with Nobivac DHPPI and Nobivac L4 as follows: On 16 March 2015 (9 weeks old) - On 30 March 2015 (11 weeks old, EUJ since last vaccination should be at 12 weeks) On 6 may 2015 the dog started to display liquid diarrhoea. On 8 may 2015 the dog also displayed vomiting. The dog was hospitalized. Blood and faeces samples were collected for analyses. On 11 may 2015 the dog was better but still showing anorexia and vomiting (less diarrhoea). It was drinking water. On 12 may 2015 haemogram results showed severe leucopenia and anaemia. On 13 may 2015 PCR results showed parvovirus. The dog is getting better day by day. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 230 Reason: Prophylaxis Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 544 Reason: Unknown.] [State of health: Good]	Rottweiler	Not Known	NOBIVAC DHPPI - 1,N/A,N/A ,24,1 Dose (30/03/2015-30/03/2015) NOBIVAC L4 SUSPENSION INJECTABLE PARA PERROS (5 VIALES) - 1,N/A,N/A ,24,N/A (30/03/2015-30/03/2015) 	

NOBIVAC L4	GB-NLINTVINT-2013-UK-03221	United Kingdom	Animal	Canine/dog	8.7 Year(s)	11/09/2013	23/10/2013	1	1	1	1	12/09/2013	Yes	Restlessness,Anaemia NOS,Thrombocytopenia,Low platelet count,Leucocytosis,Leucopenia,Lymphopenia,Neutrophilia,Tachycardia,Pale mucous membrane,Death by euthanasia,Inappetence,Lethargy (see also Central nervous system depression in "Neurological"),Spleen hypertrophy	No Data	Lethargy within 24 hours of vaccination and appeared hyperactive that night. Anorexia, tachycardia, splenomegaly, pale mucous membranes the following day. Blood tests revealed thrombocytopenia, anaemia, lymphopenia, neutrophilia, leucocytosis. Treatment with prednisolone was started, did not improve with steroids or transfusion, ultrasound was non diagnostic, and the dog was euthanased. No post mortem performed. Metacam given concurrently.	Golden Retriever	32.5	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (11/09/2013-11/09/2013) 	O1 - Inconclusive	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03258	United Kingdom	Animal	Canine/dog	11 Week(s)	02/09/2013	12/12/2013	1	1	1	1	27/09/2013	No, No, No, No, Not Known	Anaemia NOS,Pale mucous membrane,Pancreas disorder,Vomiting,Death,Inappetence,Lethargy (see also Central nervous system depression in "Neurological"),Blood in faeces,Dehydration,Abnormal test result,Elevated liver enzymes,Urine abnormalities NOS,Abnormal stool colouration,Elevated ALT	Not Known	Emesis, anorexia, dark urine and blood in faeces 8 days post 2nd dose vaccination. Lethargy, dehydration, pale mucous membranes, anaemia and hepatopathy 2 days later. Referred and treated with blood transfusion. Ultrasound showed pancreatitis. Death 2 weeks post 2nd dose vaccination despite treatment.	Labrador Retriever	8	Nobivac DHPH - 1,N/A,N/A ,24,1 Dose (19/09/2013-19/09/2013) Nobivac KC - 1,N/A,N/A ,24,1 Dose (19/09/2013-19/09/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (02/09/2013-02/09/2013) 	No assessment performed	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03264	United Kingdom	Animal	Canine/dog	3.5 Year(s)	01/10/2013	07/10/2013	1	1	0	0	01/10/2013	Yes	Diarrhoea Head tilt - ear disorder,Fit,Nystagmus,Rigidity of limbs,Incoordination	No Data	Convulsions and head tilt within 24 hours post vaccination. Nystagmus and hypertonia noted 2 days later followed by diarrhoea and ataxia 5 days after this. The dog had a history of syringomyelia.	Cavalier King Charles Spaniel	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (01/10/2013-01/10/2013) 	B - Possible	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03325	United Kingdom	Animal	Canine/dog	1 Year(s)	07/10/2013	11/10/2013	1	1	0	0	07/10/2013	Yes, No, No, Yes	Facial swelling (see also 'Skin'),Smuffle	No Data	Allergic oedema of the face and mints within 30 minutes post vaccination. Recovery 24 hours later following corticosteroid administration.	Pug	Not Known	Nobivac DHP - 1,N/A,N/A ,10,1 ml (07/10/2013-07/10/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (07/10/2013-07/10/2013) 	B - Possible	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03352	United Kingdom	Animal	Canine/dog	15 Month(s)	09/10/2013	14/10/2013	1	1	0	0	11/10/2013	Yes, No, Yes	Allergic reaction	No Data	Hypersensitivity reaction (no further details available) 2 days post vaccination. Recovery following steroid administration.	Other Canine/dog	23.3	Nobivac KC - 1,N/A,N/A ,10,0,4 ml (09/10/2013-09/10/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (09/10/2013-09/10/2013) 	O1 - Inconclusive	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03372	United Kingdom	Animal	Canine/dog	8 Week(s)	25/09/2013	16/10/2013	1	1	1	1	04/10/2013	Yes, No, Yes	Diarrhoea,Death by euthanasia,Anorexia,Hypoglycaemia	No Data	Diarrhoea, anorexia and hypoglycaemia 9 days post vaccination. Euthanasia 1 week later. No PME carried out. PCR positive for parvovirus but unknown if field or vaccinal strain.	Shih Tzu	Not Known	Nobivac DHPH - 1,N/A,N/A ,10,1 ml (25/09/2013-25/09/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (25/09/2013-25/09/2013) 	O - Unclassifiable/unassessable	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03386	United Kingdom	Animal	Canine/dog	4 Year(s)	15/10/2013	16/10/2013	1	1	0	0	15/10/2013	Yes, No, Yes	Tachycardia,Lethargy (see also Central nervous system depression in "Neurological")	No Data	Lethargy and tachycardia within half an hour of vaccination. Received Pi and Lepto 2 last year with no adverse event.	Not Applicable	4.5	Nobivac DHP - 1,N/A,N/A ,10,1 ml (15/10/2013-15/10/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (15/10/2013-15/10/2013) 	B - Possible	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03450	United Kingdom	Animal	Canine/dog	14 Week(s)	21/10/2013	22/10/2013	1	1	0	0	21/10/2013	No, No, No, No	Labouring breathing,Tracheal and laryngeal disorder NOS,Pale mucous membrane,Facial swelling (see also 'Skin'),Cyanosis	Other	Allergic oedema of the face and muzzle, laryngeal noise, dyspnoea, pale mucous membranes and cyanosis within 1 hour post vaccination. Recovery within 24 hours following corticosteroid and antihistamine administration.	Shih Tzu	Not Known	Nobivac DHPH - 1,N/A,N/A ,24,1 Dose (21/10/2013-21/10/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (21/10/2013-21/10/2013) 	B - Possible	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03772	United Kingdom	Animal	Canine/dog	13 Year(s)	05/11/2013	10/12/2013	1	1	0	0	07/11/2013	Not Known, No, Yes	Leucocytosis,Hypothyroidism,Anorexia,Inappetence,Lethargy (see also Central nervous system depression in "Neurological"),Off colour,Pyrexia,Weight loss,Abnormal test result,Hypoalbuminaemia,Elevated liver enzymes,Hyperphosphataemia,Injection site mass,Injection site abscess,Injection site inflammation,Abnormal PCR	No Data	Injection site reaction, malaise and anorexia 2 days after vaccination. Fine needle aspirate was performed and the fluid has been sent away. 7 days later the mass was larger and the dog developed hyperthermia. It was placed on IV fluids and given symptomatic treatment, blood tests consistent with inflammation.	Shih Tzu	Not Known	Nobivac KC - 1,N/A,N/A ,24,1 Dose (05/11/2013-05/11/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (05/11/2013-05/11/2013) 	B - Possible	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03799	United Kingdom	Animal	Canine/dog	5 Year(s)	13/11/2013	14/11/2013	1	1	0	0	13/11/2013	No, No, No, No	Lethargy (see also Central nervous system depression in "Neurological"),Localised oedema (not application site),Hypoalbuminaemia,Proteinuria	Other	Oedema of the distal limbs, hypoalbuminaemia, lethargy and proteinuria within 12 hours post vaccination. The dog had a history of kidney disease and auto-immune disease.	Boxer (German Boxer)	30.1	Nobivac DHP - 1,N/A,N/A ,10,1 ml (13/11/2013-13/11/2013) Nobivac KC - 1,N/A,N/A ,10,0,4 ml (13/11/2013-13/11/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (13/11/2013-13/11/2013) 	O1 - Inconclusive	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03871	United Kingdom	Animal	Canine/dog	3 Year(s)	18/11/2013	19/11/2013	1	1	0	0	19/11/2013	No, No, Yes	Chattering of teeth,Shaking	No Data	Shaking head up and down and chattering teeth 24 hours after vaccination.	Staffordshire Bull Terrier	21	Nobivac DHP - 1,N/A,N/A ,24,1 Dose (18/11/2013-18/11/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (18/11/2013-18/11/2013) 	O1 - Inconclusive	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03874	United Kingdom	Animal	Canine/dog	11 Year(s)	30/08/2013	19/11/2013	1	1	1	1	04/09/2013	No, No, No	Epileptic seizure,Death by euthanasia	Other	Increase in frequency of epileptic seizures 5 days post vaccination. Euthanasia. The dog was on concurrent Epifen.	German Shepherd Dog	Not Known	Nobivac DHPH - 1,N/A,N/A ,10,1 ml (30/08/2013-30/08/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (30/08/2013-30/08/2013) 	O1 - Inconclusive	
NOBIVAC L4	GB-NLINTVINT-2013-UK-03914	United Kingdom	Animal	Canine/dog	6 Month(s)	17/10/2013	22/11/2013	1	1	0	0	30/10/2013	No, No, Yes	Behavioural disorder NOS,Dullness,Constipation,Diarrhoea,Digestive tract disorder NOS,Vomiting	No Data	Emesis and diarrhoea 13 days after vaccination. Xrays and ultrasound demonstrated mild thickening of the intestinal wall. Treated with antibiotics and ranitidine, owner reports that the dog improves and declines.	Golden Retriever	Not Known	Nobivac KC - 1,N/A,N/A ,24,1 Dose (17/10/2013-17/10/2013) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,24,1 Dose (17/10/2013-17/10/2013) 	O1 - Inconclusive	

NOBIVAC L4	GB-NLINTVINT-2014-UK-04546	United Kingdom	Animal	Canine/dog	11 Year(s)	25/11/2014	26/11/2014	1	1	1	0	25/11/2014	Yes R> Yes	Facial swelling (see also 'Skin')	No Data	Allergic oedema of the face 30 minutes post vaccination. Treated with antihistamines and corticosteroids, outcome unknown.	Shetland Sheepdog	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (25/11/2014-25/11/2014) Rables - 1,N/A,N/A ,10.1 ml (25/11/2014-25/11/2014) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GB-NLINTVINT-2014-UK-04571	United Kingdom	Animal	Canine/dog	10 Week(s)	27/10/2014	27/11/2014	1	1	1	11/11/2014	Yes R> Not Known	Shock,Diarrhoea,Enteritis,Vomiting,Not drinking,Death,Anorexia,Lethargy (see also Central nervous system depression in 'Neurological'),Lack of efficacy,Abnormal test result	Not Known	Suspected lack of efficacy. Diarrhoea and emesis 15 days post vaccination. Treated with Cerenia, Protein and Zantac. Deterioration, lethargy, shock, collapse, anorexia, adipsia and diarrhoea 1 week later. Treated with fluids. Death later the same day. PME showed enteritis and Parvovirus confirmed by PCR. 2nd vaccination had been given at 8 weeks of age.	German Spitz - Pomeranian	1.13	Nobivac DHP - 1,N/A,N/A ,10.1 ml (27/10/2014-27/10/2014) Rables - 1,N/A,N/A ,10.1 ml (27/10/2014-27/10/2014) 	No assessment performed		
NOBIVAC L4	GB-NLINTVINT-2014-UK-04581	United Kingdom	Animal	Canine/dog	8 Week(s)	21/11/2014	27/11/2014	1	1	1	21/11/2014	No R> No	Abnormal test result,Abnormal radiograph finding,Vocalisation,Tachycardia,Pale mucous membrane,Distension of abdomen,Vomiting,Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Death by euthanasia,Anorexia,Decreased body temperature,Lethargy (see also Central nervous system depression in 'Neurological'),Depression,Intestinal Laxation/Dehydration	Other	Anorexia, emesis, lethargy, depression, tachycardia, dehydrated, distended abdomen 2 days after vaccination (NOTE was unwell at time of vaccination - mucus in eye and anorexic for previous 24 hours). Treated with IVFT, antibiotics, wormers, antiemetics. Passed one roundworm overnight. The following day was still dehydrated, hypothermia, abdomen less distended. Elevated ALKP, mild hypoglycaemia. Vocalisation, collapse, tachycardia, hypothermia, pale mucous membranes the following day. Radiographs showed loss of definition of the bowel loops; intestinal rupture. Dog was euthanased. No PME, nothing further expected.	Shih Tzu	0.9	Nobivac DHP - 1,N/A,N/A ,24.1 Dose (21/11/2014-21/11/2014) Rables - 1,N/A,N/A ,24.1 Dose (21/11/2014-21/11/2014) 	N - Unlikely	NCA agrees with MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04589	United Kingdom	Animal	Canine/dog	5 Year(s)	22/10/2014	12/12/2014	1	1	0	22/10/2014	Not Known	Injection site reaction NOS, Skin slough,Elevated temperature	Not Known	Hyperthermia 2 days post vaccination. Unspecified treatment given. Sedation the next day for an unspecified reason. Injection site reaction (skin tunnel running from injection site to ventral neck) noted 6 days later and area of skin slough on the ventral neck extending to the sternum. The wound was debrided and sutured. No further information.	Golden Retriever	25.4	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (22/10/2014-22/10/2014) 	B - Possible	NCA agrees with the MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04614	United Kingdom	Animal	Canine/dog	8 Week(s)	01/11/2014	28/11/2014	1	1	2	17/11/2014	Yes R> Not Known	Abnormal test result,Abnormal necropsy finding,Dull,Shock,Diarrhoea,Vomiting,Death by euthanasia,Lack of efficacy,Dehydration	Not Known	Suspected lack of efficacy. Emesis and diarrhoea 2.5 weeks post vaccination. Lethargy, dehydration and shock 2 days later. Supportive treatment given. Euthanasia due to deterioration the next day. SWAP test positive for parvovirus. Histopathology confirmed parvovirus. 2nd vaccination given at 8 weeks of age.	Jack Russell Terrier	2.36	Nobivac DHP - 1,N/A,N/A ,24.1 Dose (30/10/2014-30/10/2014) Rables - 1,N/A,N/A ,24.1 Dose (01/11/2014-01/11/2014) 	No assessment performed		
NOBIVAC L4	GB-NLINTVINT-2014-UK-04679	United Kingdom	Animal	Canine/dog	3 Month(s)	19/11/2014	07/01/2015	1	1	1	02/12/2014	No R> No	Jaundice,Death by euthanasia,Lethargy (see also Central nervous system depression in 'Neurological'),Lack of efficacy,Dehydration,Abnormal test result	Unauthorised dosage - other	Suspected lack of efficacy. Jaundice, lethargy and dehydration 2 weeks post 2nd dose vaccination. Supportive treatment given. Samples have been sent away to test for leptospirosis. The puppy came from a litter of puppies with isopora and where some puppies have died. PCR positive for Leptospiriosis, lots of rats in the area. Euthanasia 24 hours later. PCR positive for L. borgpetersenii serovar hardjo-bovis.	Beagle	7.99	Nobivac DHP - 1,N/A,N/A ,10.1 ml (19/11/2014-19/11/2014) Rables - 1,N/A,N/A ,10.1 ml (19/11/2014-19/11/2014) 	N - Unlikely	NCA agrees with the MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04688	United Kingdom	Animal	Canine/dog	3 Year(s)	30/06/2014	06/02/2015	1	1	0	30/06/2014	Yes	Polydipsia,Polychaetia,Abnormal breathing,Pruritus,Decreased appetite,Lethargy (see also Central nervous system depression in 'Neurological'),Listless,Off colour,Pyrexia,Weight gain,Unodded sign,Immune mediated haemolytic anaemia,Proteinuria,Haematuria,Bilirubina,Inappropriate urination,Sleepiness - neurological disorder,Polyphagia,Anaemia NOS,Leucopenia,Pale mucous membrane	No Data	Malaise and anorexia within 24 hours post vaccination. Treated with corticosteroids and antibiotics 1 week later when presented to VS. Somnolence, lethargy, pale mucous membranes and anaemia 3 days later. Immune mediated haemolytic anaemia suspected. Treatment with prednisolone started leading to some improvement. Dyspnoea noted 3 weeks later, also inappropriate urination, lethargy, polydipsia, polyuria and tachypnoea. Blood tests showed leucopenia. Some improvement noted over the next 2 weeks but also weight gain and polyphagia. Urine tests showed proteinuria, haematuria and lots of leucocytes. No further information.	Crossbred	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,24.1 Dose (30/06/2014-30/06/2014) 	G1 - inconclusive	NCA agrees with the MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04731	United Kingdom	Animal	Canine/dog	8 Year(s)	04/12/2014	08/12/2014	1	1	0	05/12/2014	Yes	Behavioural disorder NOS,Restlessness,Increased heart rate,Tachypnoea,Pruritus,Red mucosae,Pyrexia,Abnormal test result	No Data	Behavioural disorder, restlessness and chewing at base of stairs the day after vaccination. Congested mucous membranes, pyrexia, tachypnoea and generalised pruritus 3 days later. Blood tests showed elevated haemoglobin. Treated with antibiotics and NSAIDs. Milbemax had been dispensed but it is unclear if this was administered and this product had been used before without any adverse effects.	Jack Russell Terrier	9.8	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (04/12/2014-04/12/2014) 	B - Possible	NCA agrees with the MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04739	United Kingdom	Animal	Canine/dog	9 Week(s)	02/12/2014	08/12/2014	1	1	1	02/12/2014	Yes R> No	Diarrhoea,Vomiting,Death,Hypothermia,Off colour,Elevated temperature,Hypoglycaemia,Elevated BUN,Elevated amylase,Leucopenia,Neutropenia,Tachycardia	Other	Emesis, diarrhoea, pyrexia and tachycardia within 24 hours post vaccination. Treated with antibiotics, anti-emetic and oral fluids leading to some improvement. Emesis started again the next day, further antibiotics and Cerenia given. Tachycardia, emesis and lethargy the next day, treated with fluids, antibiotics and more Cerenia. Blood tests showed leucopenia, neutropenia, elevated urea, hypoglycaemia and elevated amylase. Death later that day. PME not carried out.	Crossbred	1.7	Nobivac DHP - 1,N/A,N/A ,10.1 ml (02/12/2014-02/12/2014) 	B - Possible	NCA agrees with the MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04813	United Kingdom	Animal	Canine/dog	4 Month(s)	01/11/2014	11/12/2014	1	1	0	15/11/2014	Yes R> R> Yes R> Not Known	Anaemia NOS,Lymphocytosis,Neutrophilia,Diarrhoea,Loose stool,Increased respiratory rate,Sneezing,Cough,Regenerative anaemia,Abnormal test result,Immune mediated haemolytic anaemia,Monocytosis	No Data	Loose stools 7 days post vaccination. Treated with probiotics. 7 days later sneezing, cough, mild diarrhoea, mild tachypnoea. treated with antibiotics. Bloods: lymphocytosis, neutrophilia, monocytosis, anaemia, increased reticulocytes. Suspected idiopathic IMHA and Mycoplasma haemocanis. Isopora positive on faeces.	Pug	1.9	Nobivac DHP - 1,N/A,N/A ,10.1 ml (01/11/2014-01/11/2014) Rables - 1,N/A,N/A ,10.0.4 ml (01/11/2014-01/11/2014) Rables - 1,N/A,N/A ,10.0.4 ml (28/11/2014-28/11/2014) Rables - 1,N/A,N/A ,10.0.4 ml (01/11/2014-01/11/2014) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04860	United Kingdom	Human	Human	36 Year(s)	15/12/2014	14/01/2015	1	1	0	15/12/2014	Not Known	Injection site bleeding	Not Known	Yet self injected between nail and knuckle of left thumb with a clean needle before vaccinating a dog. The wound bled profusely, was washed with hisscrub. The bleeding has stopped. No further information received.	Human	Not Known	Nobivac L4 Suspension for Injection for Dogs - ... 			
NOBIVAC L4	GB-NLINTVINT-2014-UK-04899	United Kingdom	Animal	Canine/dog	16 Month(s)	28/11/2014	17/12/2014	1	1	0	28/11/2014	Yes R> Yes R> Yes R> Yes	Crying,Itchiness,Unresponsive to stimuli,Discomfort NOS,Injection site pain,Restlessness	No Data	Crying, discomfort 3 hours post vaccination. Later during the night became lifeless (coded lifeless), unresponsive, injection site pain. Following morning full recovery.	Toy Poodle	3.2	Nobivac DHP - 1,N/A,N/A ,10.1 ml (28/11/2014-28/11/2014) Rables - 1,N/A,N/A ,10.0.4 ml (28/11/2014-28/11/2014) Rables - 1,N/A,N/A ,10.0.4 ml (28/11/2014-28/11/2014) Rables - 1,N/A,N/A ,10.1 ml (28/11/2014-28/11/2014) 	B - Possible	NCA agrees with MAH assessment.	
NOBIVAC L4	GB-NLINTVINT-2014-UK-04916	United Kingdom	Animal	Canine/dog	4 Month(s)	04/12/2014	18/12/2014	1	1	0	04/12/2014	Yes R> Not Known	Injection site pain,Vocalisation,Lameness,Lethargy (see also Central nervous system depression in 'Neurological'),Reluctant to move	Not Known	Vocalisation during vaccine administration. Lethargy, injection site pain and vocalisation when injection site touched later the same day. Lameness of the hind legs and reluctance to move also noted. Recovery by the next day following unspecified treatment.	Standard Poodle	1.7	Nobivac DHP - 1,N/A,N/A ,24.1 ml (04/12/2014-04/12/2014) Rables - 1,N/A,N/A ,24.1 ml (04/12/2014-04/12/2014) 	B - Possible	NCA agrees with the MAH assessment.	

NOBIVAC L4	GBR-MERCKMSD-2016-UK-00394	United Kingdom	Animal	Canine/dog	5 Year(s)	14/01/2016	23/05/2016	1	1	1	26/01/2016	Yes	Death by euthanasia, Lack of efficacy	No Data	Suspected lack of efficacy: diarrhoea, pale mucous membranes, hyposalbuminaemia, low ALP, elevated BUN/creatinine, hyperphosphataemia, mild hypocalcaemia, elevated lipase and hypertension within 12 days of vaccination. Treated with IVFT, antacids, antiemetics, amlopidine. Decreased appetite, hypersalivation, treated additionally with antibiotics and electrolytes. First vaccination of L4, however up to date with L2 vaccinations. Pre-existing intermittent/occasional emesis following full meal. Suspected leptospirosis. Deterioration and euthanasia within 2 weeks. PCR negative for Leptospira for both blood and urine. No PME carried out. Negative serology for Icterohaemorrhagiae/pomona/grippotyphosa. Low positive titres: canicola, hardjo, bratislava-1. NO FURTHER INFORMATION	Border Collie	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (14/01/2016-14/01/2016) 	N - Unlikely	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00459	United Kingdom	Animal	Canine/dog	10 Week(s)	26/01/2016	01/02/2016	1	1	0	28/01/2016	Yes R= Not Known	Bloody diarrhoea, Vomiting, Retching, Pyrexia, Hypoglycaemia, Elevated ALT	Not Known	Leading to some improvement. Deterioration and further emesis 2 days later. Blood tests showed hypoglycaemia and slightly elevated ALT. Treated with fluids leading to improvement and sent home later the same day.	Cavalier King Charles Spaniel	1.65	Nobivac DHP - 1,N/A,N/A ,10.1 ml (26/01/2016-26/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (26/01/2016-26/01/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00471	United Kingdom	Animal	Canine/dog	2 Year(s)	01/03/2014	02/02/2016	1	1	0	03/03/2014	Not Known	Collapse (see also 'Cardio-vascular' and 'Systemic disorders'), inappetence, Tense abdomen, Unable to stand, Not drinking	Not Known	Collapse, anorexia, adipsia, ataxia and abdominal pain 2 days post vaccination. Treated with antibiotics, analgesics and antiemetics leading to recovery an unspecified period later. The same signs were noted 4 weeks later 2 days after the 2nd dose vaccination was administered, the same treatment was given leading to recovery. This report was taken from social media.	Labrador Retriever	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (01/03/2014-01/03/2014) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00476	United Kingdom	Animal	Canine/dog	7 Week(s)	01/02/2016	02/02/2016	7	1	1	01/02/2016	Yes R= Yes	Vocalisation, Vomiting, Seizure NOS, Death by euthanasia	No Data	Emesis in 1 puppy out of 7 starting within 30 minutes post vaccination. Emesis continued later the same day followed by abnormal barking (coded vocalisation) and convulsions. Treated with diazepam but this did not control the convulsions and therefore the puppy was euthanased. No PME carried out.	Old English Sheepdog	Not Known	Nobivac DHP - 1,N/A,N/A ,10.1 ml (01/02/2016-01/02/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (01/02/2016-01/02/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00516	United Kingdom	Animal	Canine/dog	1.3 Year(s)	29/01/2016	03/02/2016	1	1	0	29/01/2016	Yes R= Yes	Unusual stool colour, Anaemia NOS, Diarrhoea, Loose stool, Vomiting, Lethargy (see also Central nervous system depression in 'Neurological'), Mucous stool, Elevated ALT, Elevated SAP	No Data	Emesis, lethargy and yellow faeces within 24 hours post vaccination. Treated with Cerenia and Ranitidine. No further emesis but mucoid diarrhoea noted 5 days later. Treated with fluids, Cerenia and Ranitidine. Blood tests showed hepatopathy, low chlorine and anaemia. CPL normal and liver enzymes returned to normal.	Border Terrier	13	Nobivac DHP - 1,N/A,N/A ,10.1 ml (29/01/2016-29/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (29/01/2016-29/01/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00530	United Kingdom	Animal	Canine/dog	5 Year(s)	27/01/2016	04/02/2016	1	1	0	27/01/2016	Yes R= Yes	Injection site abscess, Injection site swelling, Inappetence, Lethargy (see also Central nervous system depression in 'Neurological'), Pyrexia	No Data	Lethargy, anorexia, injection site swelling/abscess, hyperthermia starting within 24 hours of vaccination. Abscess was incised and flushed, treated with antibiotics, dog improved throughout the day and continued to recover within 7 days. No further information expected.	Chihuahua	3.9	Nobivac DHP - 1,N/A,N/A ,10.1 ml (27/01/2016-27/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (27/01/2016-27/01/2016) 	B - Possible	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00531	United Kingdom	Animal	Canine/dog	10 Year(s)	12/02/2015	04/02/2016	1	1	0	19/02/2015	Yes	Seizure NOS	No Data	Convulsion within 7 days of vaccination, again 2 days later. No previous reaction, no further information.	Other Canine/dog	13	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (12/02/2015-12/02/2015) 	O1 - Inconclusive	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00539	United Kingdom	Animal	Canine/dog	10 Year(s)	28/01/2016	29/02/2016	1	1	0	28/01/2016	Yes R= Yes	Injection site abscess, Injection site swelling, Collapse (see also 'Cardio-vascular' and 'Systemic disorders'), Lethargy (see also Central nervous system depression in 'Neurological'), Localised pain NOS (see other 'SOCs' for specific pain), Pyrexia, Purulent lesion(s), Not eating, Abnormal test result, Hyperphosphataemia, Elevated ALT, Elevated SAP	No Data	Lethargy, anorexia starting within 24 hours of vaccination. Collapse, injection site lump, localised pain NOS, hyperthermia, purulent lesion within 5 days of vaccination. Treated with IVFT, antibiotics, NSAIDs. Bloods showed elevated ALT/SAP, elevated amylase (abnormal test result), hyperphosphataemia. Canine pancreatic lipase snap test positive. Showed some improvement the following day. Cytology results show degenerative neutrophilia and growth of beta haemolytic streptococcus.	Border Collie	25	Nobivac DHP - 1,N/A,N/A ,10.1 ml (28/01/2016-28/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (28/01/2016-28/01/2016) 	B - Possible	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00552	United Kingdom	Animal	Canine/dog	2 Month(s)	05/01/2016	05/02/2016	8	4	3	20/01/2016	Yes R= Yes	Death, Appetite loss	No Data	Anorexia in 4 pups, leading to death in 3 - within 15 days of vaccination. The surviving pup was treated with antibiotics and syringe feeding with water. See linked cases; breeder has 180 breeding bitches in total. Suspected parvo virus outbreak. No PME, nothing further.	Other Canine/dog	Not Known	Nobivac DHP - 1,N/A,N/A ,10.1 ml (05/01/2016-05/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (05/01/2016-05/01/2016) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00553	United Kingdom	Animal	Canine/dog	9 Week(s)	05/01/2016	05/02/2016	4	2	2	01/02/2016	Yes R= Yes	Death	No Data	Death in 2 out of 4 vaccinated 26 days prior. Breeder has 180 breeding bitches, therefore suspected Parvo virus outbreak. See other linked cases. No further information.	Crossbred	Not Known	Nobivac DHP - 1,N/A,N/A ,10.1 ml (05/01/2016-05/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (05/01/2016-05/01/2016) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00557	United Kingdom	Animal	Canine/dog	5 Year(s)	05/02/2016	05/02/2016	1	1	0	05/02/2016	Yes R= No	Vocalisation, Tachycardia, Respiratory distress, General pain (see other 'SOCs' for specific pain)	Other	Vocalisation, general pain, tachycardia, dyspnoea within 2 hours of vaccination. No further information expected.	Lhasa Apso	8.1	Nobivac DHP - 1,N/A,N/A ,10.1 ml (05/02/2016-05/02/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (05/02/2016-05/02/2016) 	B - Possible	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00563	United Kingdom	Animal	Canine/dog	10 Year(s)	31/07/2015	04/04/2016	1	1	0	19/08/2015	Not Known	Abnormal test result, Off colour, Diarrhoea, Lymphopenia, Elevated ALT, Elevated liver enzymes, Tense abdomen	Not Known	Diarrhoea and malaise 3 weeks post 2nd dose vaccination. Supportive treatment given, faecal analysis was normal and blood tests showed lymphopenia, elevated haematocrit and haemoglobin. Recovery an unspecified period later with an intestinal diet. Another dose of Nobivac L5 was administered in error 5 months later. Intermittent diarrhoea started. Blood tests showed hepatopathy. Severe diarrhoea, malaise and abdominal pain 3 days post accidental vaccination. Treated with fluids leading to improvement. Referred to specialist and thickening of the duodenum and ileum found. Endoscopy was unremarkable. Treated with steroids and hypoallergenic diet. No further information, outcome unknown.	Hovawart	33.3	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (31/07/2015-31/07/2015) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00619	United Kingdom	Animal	Canine/dog	3 Month(s)	05/02/2016	10/02/2016	1	1	0	05/02/2016	Yes R= Not Known	Facial swelling (see also 'Skin'), Hives (see also 'Skin'), Allergic pruritus	Not Known	Urticaria, allergic oedema of the face and allergic pruritus 20 minutes post vaccination. Treated with dexamethasone leading to improvement.	French Bulldog	3.1	Nobivac DHP - 1,N/A,N/A ,10.1 ml (05/02/2016-05/02/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (05/02/2016-05/02/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00639	United Kingdom	Animal	Canine/dog	2 Month(s)	01/02/2016	05/04/2016	6	1	1	08/02/2016	Yes R= Yes R= Not Known	Dullness, Tachycardia, Portacaval shunt, Knuckling, Seizure NOS, Slow reflexes, Death by euthanasia, Lethargy (see also Central nervous system depression in 'Neurological'), Off colour, Abnormal necropsy finding, Intention tremor, Difficulty chewing	Not Known	Malaise in 1 out of 6 puppies 48 hours post vaccination. Neurological signs, pyrexia and tachycardia noted on examination 7 days post vaccination. Unknown what treatment given but discharged from hospital the next day. Deterioration over the next 2 days including convulsions, hyporeflexia, dullness, lethargy, difficulty chewing, intention tremors and knuckling on all four limbs. Euthanasia. PME indicates a intrahepatic portosystemic shunt.	Other Canine/dog	4.4	Identification Chip - 1,N/A,N/A ,24.1 (01/02/2016-01/02/2016) Nobivac DHP - 1,N/A,N/A ,10.1 ml (01/02/2016-01/02/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (01/02/2016-01/02/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-00647	United Kingdom	Animal	Canine/dog	2.6 Year(s)	06/01/2016	11/02/2016	1	1	0	30/01/2016	Yes R= Not Known	Seizure NOS	Not Known	Convulsion 24 days post vaccination. A similar reaction had been seen post vaccination on a previous occasion (see case 2016-UK-00649).	Staffordshire Bull Terrier	20.9	Nobivac DHP - 1,N/A,N/A ,10.1 ml (06/01/2016-06/01/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (06/01/2016-06/01/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2016-UK-03099	United Kingdom	Animal	Canine/dog	15 Year(s)	26/06/2016	14/07/2016	1	1	0	27/06/2016	Yes; R> Yes	Inappetence,Foam in the mouth,Enlarged lymph node (localised),Leucocytosis,Pneumonia (Ate),Cough	No Data	Dog was vaccinated on 26 June 2016 with Nobivac KC and Nobivac L4 (unknown if given at room temperature). Dog is on concurrent heart medication (unknown what) Seen on 7 July 2016 as owners reported since 27 June 2016 the dog has had a hacking cough, and has been inappetent on suspension in 1 had mild submandibular lymph node enlargement, plus was bringing up froth. Was placed on Metacam and Doxycycline. Update 8 July Has been taken into hospital with a congested chest, was placed on oxygen. They plan to do bloods and a chest X ray. Follow up 11 Jul 2016 - Radiographs show pneumonia with alveolar pattern and bloods indicated a high White Blood Cells count, unknown details. Follow up 14 Jul 2016 - Reported that dog is doing better and coughing less. No further information expected.	Cairn Terrier	12.3	Nobivac KC - 1,N/A/N/A, 24,1 Dose (26/06/2016-26/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (26/06/2016-26/06/2016) 	O1 - Inconclusive	Close time association with vaccination and initial clinical signs of coughing and inappetence. More likely to be associated with Nobivac KC ABON O1 However the dog is on concurrent medication for a heart condition. 12 days post vaccination collapses and died, await post mortem for cause of death ABON O1 Overall code B01
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03114	United Kingdom	Animal	Canine/dog	9 Year(s)	13/06/2016	18/07/2016	1	1	-1	14/06/2016	Yes	Unexplained death	No Data	Suspected Adverse Reaction-Limited information. Unknown date vaccinated, but reported that vaccinated with Nobivac L4 and the day after the dog died. It was thought to be due to a gastro dilatation volvulus. Not confirmed and no post mortem carried out. Nothing further expected.	Weimaraner	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (13/06/2016-N/A) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03121	United Kingdom	Animal	Canine/dog	9 Year(s)	15/06/2015	07/07/2016	1	1	0	23/06/2015	Yes; R> Not Known	Seizure NOS,Ataxia,Disorientation,Twitching	Not Known	Vaccinated on 6 June 2014 with Nobivac PI and L4. Then again had Nobivac L4 on 4 July 2014. Vaccinated on 15 June 2016 with Nobivac DHPPI and L4 (unknown if given at room temperature)Then on 23 June 2016 owner reported the dog was disorientated and twitching for a few seconds, then returned to normal. Then on 27 Sept 2015 the dog had a mini seizure, was chasing a squirrel and then became wobbly and disorientated and twitching for a few seconds then returned to normal. No more information expected Vaccinated on 17 June 2016 with Nobivac L4 (unknown if given at room temperature). 20 June 2016 dog had a fit and was twitching See other case 2016-UK-03132.	Border Collie	23.35	Nobivac DHPPI - 1,N/A/N/A, 10,1 ml (15/06/2015-15/06/2015) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (15/06/2015-15/06/2015) 	O1 - inconclusive	NCA agrees with the MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03132	United Kingdom	Animal	Canine/dog	10 Year(s)	17/06/2016	07/07/2016	1	1	0	20/06/2016	Yes; R> Yes	Vocalisation,Fit,Fatigue,Twitching	No Data	Suspected adverse reaction: Vaccinated with Nobivac PI and L4 on 6 June 2014. Then again 4 July 2014 had Nobivac L4. Vaccinated on 15 June 2015 with Nobivac DHPPI and L4, was disorientated and twitching on 23 June 2015 then recovered. Then 27 Sept 2015 had a seizure. Case set 2016-UK-03121. Vaccinated on 17 June 2016 with Nobivac L4 (unknown if given at room temperature) was also given Milbemax. Then on 20 June 2016 the dog had a fit and fell to the floor, bark and twitched this lasted for 30 seconds then was fine afterwards. Was not seen at the vets. Was seen on 7 July 2016 to report the fit. No more information expected.	Border Collie	23.35	Milbemax Chewable Tablets for Dogs - N/A/N/A/N/A, N/A/N/A (17/06/2016-17/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (09/06/2016-09/06/2016) 	O1 - Inconclusive	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03154	United Kingdom	Animal	Canine/dog	2.3 Year(s)	09/06/2016	11/07/2016	1	1	0	09/06/2016	Not Known; R> Yes	Vomiting,Anaphylaxis,Facial swelling (see also 'Skin'),Urticaria,Restlessness	Not Known	On 9 Jun 2016, dog vaccinated with Nobivac PI and Nobivac L4 (unknown if given at room temperature). Reported an hour post vaccination the dog vomited, had facial swelling, generalised urticaria and restlessness. Presented same day and dog given a Dexamedron injection. Reported that 1-2 days later the clinical signs resolved. No further information expected.	Other Canine/dog	5.1	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (09/06/2016-09/06/2016) Nobivac PI - 1,N/A/N/A, 10,1 ml (09/06/2016-09/06/2016) 	B - Possible	NCA agrees with the MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03158	United Kingdom	Animal	Canine/dog	9.1 Year(s)	08/07/2016	06/06/2017	1	1	0	08/07/2016	Yes; R> Yes	Drooling,Unable to stand,Shaking,Painting,Pyrexia,Recumbency	No Data	Suspected Adverse Reaction: Vaccine with Nobivac DHP and Nobivac L4 on 8 Jul 2016. Presented 20-30 minutes, shaking, drooling and unable to stand. Temperature 39.4 Celsius. In consult panting, drooling and cant stand or walk, shaking, seems post ictal. Bloods were carried out, but reported to be all normal. Started on intra venous fluids but dog pulled the cannula out. Cerenia given and rapid resolution of clinical signs. Nothing further expected. Follow up 6 Jun 2017 - reported that similar episodes occurred in Aug 2016 and then again on 1 May 2017. No further vaccines have been given. Nothing further expected.	Beagle	18.2	Nobivac DHP - 1,N/A/N/A, 10,1 ml 3 Animal (08/07/2016-08/07/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (08/07/2016-08/07/2016) 	B - Possible	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03166	United Kingdom	Human	Human	42 Year(s)	08/07/2016	27/07/2016	1	1	0	08/07/2016	Not known	Injection site reddening,Injection site tingling,Injection site bleeding,Injection site swelling,Injection site pain	Not Known	Yet accidentally put a needle through her left thumb whilst vaccinating a dog. She does not think any product was injected, but the needle went through her thumb, missing the bone below the knuckle. She washed the injury straight away and applied cold compress. She experienced pain, swelling, redness, bleeding and a tingling sensation at the site of the injury. The symptoms resolved in 3 or 4 days.	Human	Not Known	Nobivac L4 Suspension for Injection for Dogs - ...24 		
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03174	United Kingdom	Animal	Canine/dog	11 Year(s)	10/06/2016	11/07/2016	1	1	0	01/07/2016	Yes; R> No	Deafness,Ataxia,Balance impaired	Other	Vaccinated with Nobivac DHP and Nobivac L4 on 10 Jun 2016. Nobivac L4 was given straight from the fridge (Extra Label Use) 11 Jul 2016 owner reported that 7-10 days ago the dog became completely deaf. Usually sound sensitive and reactive but the dog cant hear anything now. Basic tests carried out in Practice and the dog appears to be deaf. Some wax at the bottom of the ears, but nothing extreme and no inflammation. Dog had previous ear problems in 2014 (unknown exact details), Ataxic and will lose balance if turns too quickly. Well in self. Nothing further expected.	Crossbred	11.5	Nobivac DHP - 1,N/A/N/A, 10,1 ml 3 Animal (10/06/2016-10/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (08/07/2016-08/07/2016) 	O1 - inconclusive	NCA agrees with the MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03212	United Kingdom	Animal	Canine/dog	2 Month(s)	28/06/2016	12/07/2016	1	1	0	04/07/2016	Yes; R> Yes	Death,Lack of efficacy	No Data	Suspected Lack of Expected Efficacy: Vaccinated with Nobivac DHP and Nobivac L4 on 28 Jun 2016. Puppy was 2 months and 10 days of age at time of vaccination. 4 Jul 2016 presented as lethargic, diarrhoea and off food. On examination the puppy was pale and admitted for intra venous fluids, Metronidazole, Ampicillin, Zantac and Probiotics. The dog went home later as financial concerns but was presented on 5 Jul 2016 and placed back on fluids. Puppy died overnight on the 5-6 Jul 2016. Results returned Parvo positive. No post mortem being carried out, nothing further expected.	German Spitz-Pomeranian	1.3	Nobivac DHP - 1,N/A/N/A, 10,1 ml 1 Animal (28/06/2016-28/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (28/06/2016-28/06/2016) 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03232	United Kingdom	Animal	Canine/dog	1 Year(s)	02/07/2016	13/07/2016	1	1	0	02/07/2016	Yes; R> Yes; R> No	Pale mucous membrane,Anaphylaxis,Facial swelling (see also 'Skin'),Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Weakness,Respiratory depression,Medication error	Other	Suspected Adverse Reaction. Dog had similar reactions post vaccination of Nobivac DHP and Nobivac L4. See linked case: 2016-UK-03231. On 2 Jul 2016, dog vaccinated with Nobivac DHP, Nobivac L4 (given at fridge temperature)(extra label use) and Nobivac KC. Fit and well at time of vaccination. Reported within 5 minutes post vaccination the dog developed acute respiratory depression, pale mucous membranes, weakness and collapse. Given adrenaline, Dexamedron injection and dog was much brighter after 10 minutes. After a further 10 minutes the dogs face swelled and was given promethazine and improved after that. Dog was discharged after a few hours as resolved. No further information expected.	Pug	8.1	Nobivac DHP - 1,N/A/N/A, 10,1 ml (02/07/2016-02/07/2016) Nobivac KC - 4,N/A/N/A, 10,0 ml (02/07/2016-02/07/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (02/07/2016-02/07/2016) 	B - Possible	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03240	United Kingdom	Animal	Canine/dog	8 Week(s)	01/07/2016	14/07/2016	8	6	3	02/07/2016	Yes; R> Yes	Diarrhoea,Vomiting,Death,Uncoded sign	No Data	Suspected adverse reaction: A litter of 8 pups from a shelter was vaccinated on 1 Jul 2016 with Nobivac DHPPI/L4 and one of the pups was vomiting with diarrhoea the following day. The pup tested positive on the parvo snap test and recovered after a few days with fluids and supportive therapy. Another 5 pups went on to develop similar signs a few days later but it is not known if these pups were tested for parvo virus and 3 pups subsequently died, date unknown. More information is expected. Follow up: 21 Jul 2017. Yet unsure of dates of death and none of the other pups that developed clinical signs were tested for parvo virus. No more information expected.	Border Terrier	Not Known	Nobivac DHPPI - N/A/N/A/N/A, N/A/N/A (01/07/2016-01/07/2016) Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A/N/A (01/07/2016-01/07/2016) 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03246	United Kingdom	Animal	Canine/dog	8 Year(s)	14/07/2016	14/07/2016	1	1	0	14/07/2016	Yes	Congestion of mucous membrane,Increased heart rate,Vomiting,Painting	No Data	Suspected Adverse Reaction. On 14 Jul 2016, dog vaccinated with second dose of Nobivac L4 (unknown if given at room temperature). Same day, approximately an hour and 30 minutes post vaccination the dog developed violent vomiting and painting, presented with an increased heart rate (140) and congested mucous membranes. Given Chlorperhamine injection and sent home. Reported improved but not fully resolved. No further information expected.	Labrador Retriever	40	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (14/07/2016-14/07/2016) 	A - Probable	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03247	United Kingdom	Animal	Canine/dog	10.9 Year(s)	16/06/2016	14/07/2016	1	1	0	16/06/2016	Not Known; R> Yes; R> Yes; R> Yes; R> Not Known	Not drinking,Cough,Inappetence,Breathing difficulty	No Data	Suspected Adverse Reaction. Dog had similar reactions post vaccination. See linked case: 2016-UK-03248 On 16 Jun 2016, dog vaccinated with Nobivac PI and Nobivac L4 (unknown if given at room temperature). Also Canisoral and Clear nasal given at the same time for ear treatment (details unknown). Reported that same day, dog developed difficulty breathing a coughing overnight and was inappetent and not drinking for 4 days (resolved 20 Jun 2016). No further information expected.	Labrador Retriever	26.2	Canisoral Ear Drops, Suspension for Dogs and Cats - N/A,N/A,N/A, 24,Unknown (16/06/2016-16/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml (16/06/2016-16/06/2016) Nobivac PI - 1,N/A/N/A, 10,1 ml (16/06/2016-16/06/2016) Nobivac L4 Suspension for Injection (unauthorised VP) - N/A,N/A,N/A, 24,Unknown (16/06/2016-16/06/2016) 	B - Possible	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03341	United Kingdom	Animal	Canine/dog	6 Year(s)	14/07/2016	22/07/2016	1	1	0	14/07/2016	Yes	Tachycardia,Ataxia	No Data	Suspected adverse reaction: Dog vaccinated with 2nd dose of Nobivac L4 on 14 Jul 2016 and was tachycardic with mild ataxia approximately 1 hour later. No treatment required and dog had recovered completely by the next morning. No more information expected.	Other Canine/dog	Not Known	Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A/N/A (14/07/2016-14/07/2016) 	A - Probable	NCA agrees with MAH assessment however causality considered probable.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03375	United Kingdom	Human	Human	Not Known	21/07/2016	21/07/2016	1	1	0	21/07/2016	Not Known	Vision blurred	Not Known	Dog owner received a small amount of vaccine in her eyes when the needle came off the syringe as the vet was vaccinating dog. Her eyes were flushed immediately. She called 30 mins later to report that she had blurred vision. She was advised to seek medical attention. It is unknown whether she received any attention, but the symptoms had resolved by the following day.	Human	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1, 10 		

NOBIVAC L4	GBR-MERCKMSD-2016-UK-03691	United Kingdom	Animal	Canine/dog	8.5 Year(s)	03/06/2016	09/08/2016	1	1	1	11/06/2016	Yes- R- Not Known	Parrying,Death by euthanasia,Cyanosis,Reluctant to move,Pyrexia,Not eating,Immune mediated haemolytic anaemia,Blood in urine,Elevated total bilirubin,Decreased packed cell volume (PCV),Congestive heart failure,Heart murmur,Syncope,Dyspnoea	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 3 Jun 2016. 11 Jun 2016 presented as not wanting to eat or move for a few hours. On examination the dog had a Grade V/VI heart murmur, mucous membranes were pale pink, temperature 39.1 C, Heart rate 160bpm, parrying blood in urine. Total bilirubin 23 (21-10), White Blood Cells 10 (10-18) x10 ⁹ /l, Haemoglobin 9.7, Platelets 219 no ranges supplied. Owners requested to take the dog home, started on Zantac and Temgesic. 12 Jun 2016 PCV 26% (35-57%), Syncope episodes in kennels and placed on oxygen. Placed on IV fluids, Ronaxan, steroids and Cerenia. Late the same day PCV 21% (35-57%), Temperature 38.5 Celsius, heart rate 140, panting and referred to a specialist. Immune Mediated Haemolytic Anaemia was diagnosed. 12 Jun 2016 at referral Practice, blood transfusion as carried out and placed on oxygen therapy, rapid deterioration and became dyspnoic. Radiographs revealed congestive heart failure. Over the next 36 hours the dog got worse and a repeat blood transfusion was carried out. PCV prior to blood transfusion 11% and rose to 26% (35-57%). 16 Jun 2016 cyanotic, dyspnoea and owners decided to euthanase. Nothing further expected.	Cavalier King Charles Spaniel	7.5	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (03/06/2016- 03/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (03/06/2016-03/06/2016) 	8 - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03700	United Kingdom	Animal	Canine/dog	9 Week(s)	27/05/2016	21/09/2016	1	1	0	27/05/2016	Yes- R- Not Known	Diarrhoea,Vomiting,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Suspected Adverse Reaction. On 27 May 2016, dog vaccinated with first Nobivac DHP and Nobivac L4 (unknown if given at room temperature). Same day the dog was presented to emergency practice with vomiting, diarrhoea and lethargy. Admitted and placed on intravenous fluid therapy and no other treatments were given. On 28 May 2016, the dogs clinical signs had completely resolved and was sent home. No further information expected. Follow up 21 Sept 2016 - bloods unremarkable, parvo snap test negative. Nothing further expected.	Labrador Retriever	9.8	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (27/05/2016-27/05/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (27/05/2016-27/05/2016) 	8 - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03704	United Kingdom	Animal	Canine/dog	1.5 Month(s)	18/07/2016	09/08/2016	9	4	2	03/08/2016	Yes- R- Not Known	Death,Lack of efficacy (parvovirus)	Not Known	Litter of 9 puppies, all vaccinated on 18 Jul 2016 with first vaccination of primary course Nobivac DHP and Nobivac L4 (6 weeks and 2 days) Puppy 1 had been re homed on 2 Aug 2016 and on 3 Aug 2016 had haemorrhagic diarrhoea and vomiting. The puppy died on the way to the Vets. Puppy 2 had vomiting and diarrhoea that started on 5 Aug 2016. On examination temperature 39.6 Celsius and treated with Cerenia and given Electrolytes. The breeder refused for the puppy to be hospitalised and the puppy died at home. Parvo strong positive on unknown test. Another 2 puppies have vomiting and diarrhoea that developed on 5 Aug 2016 and placed on anti emetics and antacids, both recovered. No further investigations are being carried out, nothing further expected.	Crossbred	2.3 - 3.5	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (18/07/2016-18/07/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (18/07/2016-18/07/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03766	United Kingdom	Animal	Canine/dog	8 - 12 Year(s)	25/07/2016	28/09/2016	1	1	1	25/07/2016	Not Known	Death,Inappetence,Lethargy (see also Central nervous system depression in 'Neurological'),Off colour,Pyrexia,Blood in urine,Proteinuria,Discoloured urine,Abnormal necropsy finding	Not Known	Suspected Adverse Reaction. On 25 Jul 2016, dog vaccinated with Nobivac L4 (unknown if given at room temperature). Reported since vaccination the dog was off colour, lethargic, inappetent and passing dark yellow urine. On 3 Aug 2016, presented and also was pyrexic (40.1 degree Celsius). Blood sampling was declined as urine results stated protein and blood trace, given Metacam injection and started antibiotics. On 5 Aug 2016, reported a lot better in self and continued medications. On 11 Aug 2016, owner reported that the dog died overnight, a post mortem to be performed. Await further information. Follow up 28 Sept 2016 - Post mortem received, primary findings moderate colitis, possible Peyer patch depletion of the small intestines, diffuse haemorrhagic lymphadenitis and splenic activation of white pulp. Histological changes in the bone marrow, spleen and liver. A presence of E.coli in multiple organs is suggestive that the immune system had been compromised and the animal died due to septicemia or acute myeloid leukaemia. Nothing further expected.	Chihuahua	8.3	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (25/07/2016-25/07/2016) 	8 - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03782	United Kingdom	Animal	Canine/dog	11 Week(s)	26/07/2016	15/08/2016	1	1	0	12/08/2016	Yes- R- Not Known	Leucocytosis,Neutrophilia,Conjunctivitis,Inappetence,Lethargy,Pyrexia,Eyelid oedema,Abnormal test result,Oral mucosal blistering,Swollen mouth,Hypoproteinaemia,Hyperphosphataemia,Enlarged lymph nodes (generalised)	Not Known	Suspected Adverse Reaction. On 26 Jul 2016, dog vaccinated with Nobivac DHP and on 9 Aug 2016, Nobivac L4 (unknown if given at room temperature). On 12 Aug 2016, presented quiet, pyrexic, off food, bilateral conjunctivitis, swollen upper eyelids, swollen mouth, blistering mucocutaneous junctions, enlarged submandibular lymph nodes and slightly enlarged popliteal lymph nodes. Given Meloxicam and Amoxicillin/clavulanic acid. On 13 Aug 2016, slight improvement, lips still swollen as well as lymph nodes. Blood tests: WBC 18 (6-17), Neutrophils 13 (3-12), HGB 10.5 (12-18), HCT 34.6 (37-55), Urea 2.3 (2.1-8.3), Phos 1.7 (0.94-2.15), Total protein 48 (54-82). Continued the same treatment. No further information expected.	Golden Retriever	Not Known	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (09/08/2016-09/08/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (26/07/2016-26/07/2016) 	8 - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03806	United Kingdom	Animal	Canine/dog	6 Month(s)	28/06/2016	14/10/2016	1	1	0	02/07/2016	Yes- R- Not Known	Eosinophilia,Leucocytosis,Retching,Sneezing,Cough,Respiratory sound,Abnormal test result,Elevated ALT,Elevated SAR,Abnormal ultrasound finding,Reverse sneezing,Basophilia,Elevated gamma-glutamyl transferase (GGT),Monocytosis	Not Known	Suspected Adverse Reaction. On 28 Jun 2016, dog vaccinated with Nobivac KC, Nobivac DHP and Nobivac L4 (unknown if given at room temperature). Fit and well at the time and nothing else given. Approximately between 2 or 3 Jul 2016, started sneezing and progressing into a slight cough. Presented on 11 Jul 2016, no treatment given. On 12 Jul 2016, started retching, sneezing and sneezing, presented and negative for tracheal pinch. On 18 Jul 2016, snuffy and still bright and slight rattle at the back of the throat, given Dexafort and Prinovox. On 27 Jul 2016, reported since weekend got worse, throat still rattling and noisy proximal trachea and tendency to make choking noises if excited. Started Prednisolone. On 10 Aug 2016, reported improving but still making snoring noises. On 12 Aug 2016, continued sneezing and now starts to vomit, blood tests performed: Urea 2.3 (2.1-5.6), Creatinine 42 (44-159), Phosphate 2.29 (0.81-2.2), ALT 336 (10-125), ALP 324 (23-212), GGT 24 (0-11), Amylase 354 (500-1500), MCV and MCHC slight below the reference range (no value or reference range given), WBC 18.15 (5.05-16.76), Monocytes 1.5 (0.16-1.12), Eosinophils 1.4 (0.06-1.23), Basophils 0.22 (0-0.1). An ultrasound was performed that stated heart was large and globular, dog admitted overnight and given Cerenia. On 13 Aug 2016, given Nello and Fruamide. Await further information. Follow up 14 Oct 2016 - No further information received. Case closed.	Yorkshire Terrier	Not Known	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (28/06/2016-28/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.0.4 ml 1 Animal (28/06/2016-28/06/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (28/06/2016-28/06/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03819	United Kingdom	Animal	Canine/dog	9 Year(s)	30/06/2015	16/08/2016	1	1	0	01/07/2015	Not Known	Impaired vision,Retinal degeneration,Malaise,Skin warmth	Not Known	Suspected Adverse Reaction. Vaccinated with Nobivac L4 on 30 Jun 2015. On 1 Jul 2015 dog is quiet and feels hot, started to bump into things. On 3 Jul 2015 presented with no vision in left eye and minimal in right eye. Left eye looks like retinal detachment, no sign of bleeding. Various (unknown) diagnostics carried out with no cause found. Re seen in Aug 2016 and no mention of blindness. Nothing further expected.	Bearded Collie	23	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (30/06/2015-30/06/2015) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03831	United Kingdom	Animal	Canine/dog	7.5 Year(s)	08/08/2016	16/08/2016	1	1	0	14/08/2016	Yes- R- Not Known	Thrombocytopenia,Leucopenia,Diarrhoea,Vomiting,Yellow mucous membranes,Lethargy (see also Central nervous system depression in 'Neurological'),Weight loss,Not eating,Abnormal test result,Hypalbuminaemia,Elevated BUN,Elevated ALT,Elevated SAR,Abnormal ultrasound finding,Hyperproteinaemia,Decreased red blood cell count,Decreased haemoglobin,Decreased packed cell volume (PCV)	Not Known	Suspected Adverse Reaction. Vaccinated with Nobivac DHP and Nobivac L4 on 8 Aug 2016. 14 Aug 2016 presented with lethargy, not eating, mucous membranes jaundiced, lost weight, watery diarrhoea. Bloods taken. Antibiotics given. PCV 18% (37-55%), White Blood Cells 2.8 (6-15), Red Blood Cells 2.44 (5-8.5), Haemoglobin 5.7 (12-18), Platelets 7 (200-500), Albumin 8 (26-40), Total Protein 119 (50-72), Globulins 111 (19-46), Urea 11.4 (1.4-7.4), ALT 346 (13-78), ALP 308 (12-83). Presented 15 Aug 2016 eaten a small amount and passed small amount of faeces, given antibiotic overnight. PCV 15% (37-55). Vet suspects immune Mediated Haemolytic Anaemia. Plan to start on Prednisolone and gastro protectants. Nothing further expected. 16 Aug 2016 ate overnight but then vomited. Desamethasone given and an ultrasound of the liver showed a thickening but no growths. The dog stayed in the Practice until the owners returned to discuss. Nothing further expected.	Staffordshire Bull Terrier	20.8	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (08/08/2016-08/08/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (08/08/2016-08/08/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03844	United Kingdom	Animal	Canine/dog	14.6 Year(s)	13/08/2016	17/08/2016	1	1	0	16/08/2016	Yes- R- Yes	Vomiting,Ataxia,Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Nystagmus,Peripheral vestibular disorder	No Data	Suspected Adverse Reaction. On 13 Aug 2016, dog vaccinated with Nobivac DHP and Nobivac L4 (given at room temperature). No other treatment given. Clinically healthy at the time, however does have a weakness on back legs and end stage arthritis in both hips. On 15 Aug 2016, owner noticed the dog had collapsed in the morning, vomited once that morning also and was ataxic. Presented and examination showed nystagmus and ataxia, veterinary surgeon diagnosed peripheral vestibular neuropathy. No further information expected.	Other Canine/dog	26	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (13/08/2016-13/08/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (13/08/2016-13/08/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-03871	United Kingdom	Animal	Canine/dog	1.2 Year(s)	06/08/2016	21/10/2016	1	1	0	15/08/2016	Yes- R- Not Known	Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Pyrexia	Not Known	Suspected adverse reaction. Vaccinated on 6 Aug 2016 with Nobivac DHP and L4 (unknown if given at room temperature) seen on 15 Aug 2016 out of hours after having two episodes of collapse on a walk, not seizure type behaviour. On examination it had a pyrexia 105.6. Otherwise was all normal. Admitted for intravenous fluids, given metacam and antibiotics. Bloods taken were all within normal levels. Bile acid stimulation test taken and was within normal levels. Serial bloods away for feline renal profile, await results. Went home that night. Seen again on 16 Aug 2016 for morning, no further episodes. Pyrexia has resolved, sent home. Seen each day and has had no further episodes. Await further results. Follow up 21 Oct 2016 No more information received, close case	Border Terrier	8.4	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (06/08/2016-06/08/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (06/08/2016-06/08/2016) 	N - Unlikely	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2016-UK-04199	United Kingdom	Animal	Canine/dog	6 Year(s)	16/07/2016	06/09/2016	1	1	1	15/08/2016	No	Anaemia NOS,Vomiting,Abortion,Foetal mummification,Foetal resorption,Death by euthanasia,Vaginal discharge,Decreased packed cell volume (PCV)	Other	Suspected Adverse Reaction Vaccinated with Nobivac L4 on 16 Jul 2016, given fridge temperature (Extra Label Use), 1 month pregnant and ultrasound was carried out, multiple live foetuses. 15 Aug 2016 vomiting since 15 Aug 2016, full term pregnancy, presented with vulval discharge, ultrasound carried out and no puppies on scan, reabsorbed and aborted, 1 mummified foetus was passed, the dog was anaemic. Vet suspects foetal death 1 week after vaccine, the dog was spayed. Recovered well from general anaesthetic, PCV 10-11% and Vet suspected immune Mediated Haemolytic Anaemia. The dog was euthanased on 17 Aug 2016. No post mortem is being carried out. Nothing further expected.	Labrador Retriever	25.9	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (16/07/2016)-BR>>BR>	O1 - Inconclusive	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04221	United Kingdom	Animal	Canine/dog	11.1 Year(s)	26/11/2014	26/09/2016	1	1	0	05/09/2016	Yes R> Not Known	Lack of efficacy (parvovirus)	Not Known	Suspected Lack of Expected Efficacy for CPV on 26 Nov 2014, dog vaccinated with Nobivac DHP and Nobivac L4 (unknown if given at room temperature). Reported that as an adult (date unknown) was only given a Nobivac DHP. On 5 Sep 2016, reported that dog started vomiting, lethargic and off food. Presented with mild dehydration and was admitted for intravenous fluid therapy, Cerenia, Noroclav, Zantac and Veteregic. Blood performed: ALT 505 (10-1180), Amyl 3421 (200-1200), Lymph 0.78 (1-4.8), FBC 9.43 (5.5-8.5), HGB 21.7 (12-18), MCV 37.8 (31-34). A in-house snap for parvovirus was positive. Passed watery blood with a clot and a maldour from anus. Treated at emergency, given Metronidazole. On 6 Sep 2016, haemorrhagic diarrhoea still continued. Reported that dog is on Onisor for hind legs prior to reaction (exact details unknown). Await further information. Follow up 15 Sept 2016 - the dog was discharged. Faecal analysis was negative for salmonella and Campylobacter, positive for clostridia. Faecal parvovirus PCR negative, CPU negative. Follow up 26 Sept 2016 - inhouse PCR was faint positive, but external PCR was negative for Parvovirus. Nothing further expected.	Weimaraner	25	Nobivac DHP - 1,N/A,N/A,,10,1 ml 1 Animal (26/11/2014-26/11/2014)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (26/11/2014-26/11/2014)-BR> 	No assessment performed	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04232	United Kingdom	Animal	Canine/dog	6 Year(s)	03/08/2016	13/09/2016	1	1	0	03/09/2016	Yes	Low blood pressure,Diarrhoea,Vomiting,Addis on's disease,Unable to stand,Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Hypoalbuminaemia,Hypoglycaemia,Hypoproteinaemia,Shaking,Elevated BUN,Elevated creatinine	No Data	Suspected Adverse Reaction. On 3 Aug 2016, dog vaccinated with Nobivac L4 (unknown if given at room temperature). On 3 Sep 2016, presented collapsed and shaking, low blood pressure and low blood glucose. Also noted to be vomiting and diarrhoea. Admitted for intravenous fluid therapy and supportive treatment. On 6 Sep 2016, dog improving but more conscious and unable to stand, has had a nasogastric tube placed. Stated that bloods showed elevated Urea, creatinine and low total protein and albumin. Await further information.	Labrador Retriever	25	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (03/08/2016-03/08/2016)-BR> 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04237	United Kingdom	Animal	Canine/dog	2 Year(s)	16/08/2016	13/09/2016	1	1	0	18/08/2016	Yes R> Not Known	Pale mucous membrane,Bloody diarrhoea,Vomiting,Impaired vision,Not drinking,Pyrexia,Not eating,Glazed eye	Not Known	Dog vaccinated with Nobivac DHP and Nobivac L4 (unknown if given at room temperature) on 16 Aug 2016. On 18 Aug 2016 started vomiting and diarrhoea. The next eight days in hospital on a drip (unknown when the rest of clinical signs have started). The dog had blood diarrhoea, vomiting, pyrexia and pale gums. Adipsia and anorexia stated from the owner that the dog couldn't recognise the owner and seemed glazed. Unknown if the dog made a recovery. No further information expected. Follow up 13 Sept 2016 Canine pancreatitis negative. Nothing further expected.	Collie Rough	Not Known	Nobivac DHP - 1,N/A,N/A,,10,1 ml 1 Animal (16/08/2016-16/08/2016)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (16/08/2016-16/08/2016)-BR> 	B - Possible	Temporal association is strong (48 hours) and initial clinical signs are known to occur following administration. Later clinical signs such as impaired vision and glazed eyes are not expected, however, product may be a factor and cannot be excluded.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04241	United Kingdom	Animal	Canine/dog	Not Known	01/01/2016	07/11/2016	3	7	4	01/01/2016	Not Known	Stillbirth,Pyometra,Death by euthanasia,Death,Reduced conception rate,Malformation NOS	Not Known	Suspected Adverse Reaction. Case has been reported from a social media site. Reported that on an unknown date, two breeders stated that have had conception failures for 5 litters between them, the dogs have a history of Nobivac L4. It is reported that on an unknown date recently a bitch had a stillbirth (no post mortem performed). The dogs are not vaccinated during pregnancy but is unknown whether they were vaccinated prior to going to stud. Await further information. Follow up 23 Sept 2016 - further information received. 3 brood bitches (not 4 or 5) have been having fertility issues since 2014. All had boosters with Nobivac L4, however unknown dates given. The first bitch has not conceived at all since 2014. The second bitch had 2 normal healthy litters prior to 2014, and then when she gave birth (normal pregnancy) she needed to have caesarian which revealed 2 dead puppies which had been dead for 2 weeks and 2 live puppies, 1 of which died 2 hours later. One horn of the uterus was infected and her milk was also infected so the puppy had to be hand reared. The third bitch had a litter in Aug 2016 after not being able to conceive at 2 previous attempts. When the dog whelped, 1 puppy was dead, 1 puppy appeared to be shrivelled and had no flesh and died shortly after birth and the third puppy had to be euthanased when 3 days old due to appearing to be underdeveloped. The dog passed no fluid when whelping at all. Owners are trying to mate another bitch again, unknown which dog, await further information. Follow up 7 Nov 2016 - No further information expected. Case closed.	Cavalier King Charles Spaniel	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (01/01/2016-01/01/2016)-BR> 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04247	United Kingdom	Animal	Canine/dog	4.7 Year(s)	26/08/2016	23/01/2017	1	1	0	26/08/2016	Not Known	Limb weakness,Lethargy (see also Central nervous system depression in 'Neurological'),Unable to jump,Off colour,Reluctant to move,Inappetence,Adipsia	Not Known	Suspected Adverse Reaction. On 26 Aug 2016, dog vaccinated with Nobivac L4 (unknown if given at room temperature). On 6 Sep 2016, reported dog is unable to walk and jump since vaccination, also lethargic and inappetent. Presented with no abnormalities stated and very lively, blood tests were performed and no abnormalities seen. No further information expected. Follow up 23 Jan 2017 history received. Owner reported the dog was weak on back legs 24 hours after the vaccine and had a limp and was able to walk slowly but unable to jump. After 1 week it had not improved. 6 Sept 2016 presented as off colour, not drinking as much and not eaten that day and weakness in back legs had continued. On examination the Vet had difficulty lifting the dog up from the floor, but no abnormalities observed. 7 Sept 2016 Metacam was given and the problem fully resolved. Nothing further expected.	Staffordshire Bull Terrier	34.8	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (26/08/2016-26/08/2016)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04264	United Kingdom	Animal	Canine/dog	3 Month(s)	06/08/2016	07/09/2016	1	1	0	15/08/2016	Not Known	Swollen eye	Not Known	Suspected Adverse Reaction Vaccinated with primary vaccine of Nobivac L4 on 6 Aug 2016. The dog was presented with puffy eyes on 15 Aug 2016. Pirton was given and lathal eye drops. The dog reacted to second vaccine with a presumed hypersensitivity reaction, see linked case 2016-UK-04266 Nothing further expected.	Labrador Retriever	8.4	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (06/08/2016-06/08/2016)-BR> 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04266	United Kingdom	Animal	Canine/dog	3 Month(s)	07/09/2016	07/09/2016	1	1	0	07/09/2016	Yes R> Not Known	Vomiting,Facial swelling (see also 'Skin'),Urticaria	Not Known	Suspected Adverse Reaction Vaccinated with primary vaccine Aug 2016 and developed puffy eyes 9 days later-see linked case 2016-UK-04264. Second vaccine with Nobivac DHP and Nobivac L4 on 7 Sept 2016. Reported that evening the dog developed facial swelling and urticaria within 20 minutes of the vaccine. The dog also vomited twice, Pirton was given. Nothing further expected.	Labrador Retriever	8.4	Nobivac DHP, lyophilisate and solvent for suspension for injection for dogs - 1,N/A,N/A,,10,1 ml 1 Animal (07/09/2016-07/09/2016)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (07/09/2016-07/09/2016)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04286	United Kingdom	Animal	Canine/dog	3 Year(s)	07/09/2016	08/09/2016	1	1	0	07/09/2016	Yes R> R> Yes	Pale mucous membrane,Diarrhoea,Vomiting,Lethargy (see also Central nervous system depression in 'Neurological')	No Data	Suspected Adverse Reaction Vaccinated with Nobivac KC, Nobivac L4 and Nobivac DHP on 7 Sept 2016. Presented within 1 hour of the vaccine with lethargy, vomiting and diarrhoea, pale mucous membranes. Treated with Deadreson and resolved within 15 minutes. Nothing further expected.	Yorkshire Terrier	3.8	Nobivac DHP - 1,N/A,N/A,,10,1 ml 1 Animal (07/09/2016-07/09/2016)-BR> Nobivac KC - 1,N/A,N/A,,10,0.4 ml 1 Animal (07/09/2016-07/09/2016)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (07/09/2016-07/09/2016)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04291	United Kingdom	Animal	Canine/dog	9 Year(s)	07/09/2016	08/09/2016	1	1	0	07/09/2016	Yes R> Not Known	Diarrhoea,Bloody diarrhoea,Vomiting,Recumbency,Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Lethargy (see also Central nervous system depression in 'Neurological'),Off colour,Increased packed cell volume (PCV)	Other	Suspected Adverse Reaction Vaccinated on Nobivac DHP and Nobivac L4 on 7 Sept 2016. Given straight from the fridge (Extra Label Use) Developed diarrhoea and vomiting 30 minutes-90 minutes post vaccine, blood in diarrhoea, very liquid. Presented on 8 Sept 2016 and admitted for intra venous fluids, antibiotics and Amoxycare, Cerenia was also given. PCV 62% (35-57%) and quiet. Owner reported that the dog collapsed last night and didn't want to walk and just lying down. Appears very lethargic but able to walk. On 9 Sept 2016 the dog was sent home. No further vomiting or diarrhoea. Bloods were reported to be normal. Nothing further expected.	Labrador Retriever	33	Nobivac DHP, lyophilisate and solvent for suspension for injection for dogs - 1,N/A,N/A,,10,1 ml 1 Animal (07/09/2016-07/09/2016)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,,10,1 ml 1 Animal (07/09/2016-07/09/2016)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04296	United Kingdom	Human	Human	24 Year(s)	08/09/2016	08/09/2016	1	1	0	08/09/2016	Not Known	Injection site bleeding,Injection site pain	Not Known	A vet pricked the tip of her left middle finger with a dirty needle whilst vaccinating a dog. She didn't think any product was injected. She immediately washed her hands and the injection site, which was bleeding. At the time of reporting she was only experiencing injection site pain.	Human	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,,,10 		

NOBIVAC L4	GBR-MERCKMSD-2016-UK-04460	United Kingdom	Animal	Canine/dog	11 Week(s)	13/09/2016	15/09/2016	1	1	0	13/09/2016	Yes; R=> Yes	Injection site pain,Vocalisation,Pale mucous membrane,Tachypnoea,Elevated temperature,Tense abdomen	No Data	Suspected Adverse Reaction Vaccinated with Nobvac DHP and Nobvac L4 on 13 Sept 2016 at 10.30am. At 6pm the same evening the owner reported the dog's breathing was fast and the dog was whining and painful. On examination, temperature 39.1 Celsius, painful at injection site and pale mucous membranes with a taut abdomen given the dog improved within 40 minutes and went home. The following day the dog had diarrhoea but had recovered. Nothing further expected.	Yorkshire Terrier	2.3	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (13/09/2016-13/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (13/09/2016-13/09/2016) 	B - Possible	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04525	United Kingdom	Animal	Canine/dog	4 Year(s)	09/09/2016	19/09/2016	1	1	0	09/09/2016	Yes; R=> Yes	Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Facial oedema	No Data	Suspected Adverse Reaction Vaccinated with Nobvac DHP and Nobvac L4 on 9 Sept 2016. L4 given at 3 hours post vaccine with facial oedema around muscle and eyes. Temperature 39.6 Celsius, lethargic. Dexamethason and Pirron were given and repeated the following day. No update from the owner since. Nothing further expected.	Crossbred	13	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04546	United Kingdom	Animal	Canine/dog	2 Month(s)	03/09/2016	11/10/2016	1	1	0	10/09/2016	No; R=> No	Ataxia,Hypoglycaemia,Dehydration, Not eating,Pyrexia,Decreased body temperature,Vomiting,Bloody diarrhoea,Diarrhoea	Other	Suspected Adverse Reaction. On 3 Sep 2016, dog vaccinated with Nobvac DHP and Nobvac L4 (given at fridge temperature, extra label use), fit and well at time of vaccination. On 6 Sep 2016, given Dronal tablet. On 10 Sep 2016, dog developed vomiting, diarrhoea, dehydration and ataxia. Presented with a low temperature and given intravenous fluid therapy and was hypoglycemic and was given glucose in fluids. Given Augmentin and Metronidazole. Responded well but not eating. On 11 Sep 2016, diarrhoea with blood in it and now pyrexia and blood glucose 2.1 mmol/L (no reference range given). On 12 Sep 2016, blood glucose 4.2 mmol/L and still diarrhoea but no blood. On 13 Sep 2016, blood glucose 13 and 14 mmol/L throughout the day and stools all normal and temperature resolved. On 18 Sep 2016, all clinical signs resolved and dog well in self. No further information expected.	Crossbred	0.83	Dronal Plus Flavoured Bone Shaped Tablets - 1,N/A/N/A ,24,1 Dose 1 Animal (06/09/2016-06/09/2016) Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (03/09/2016-03/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (03/09/2016-03/09/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04550	United Kingdom	Animal	Canine/dog	3 Month(s)	14/09/2016	23/09/2016	1	1	0	18/09/2016	Yes; R=> No	Lack of efficacy	Other	Suspected Lack of Expected Efficacy. On 14 Sep 2016, dog vaccinated with second dose of Nobvac DHP and Nobvac L4 (not given at room temperature, extra label use), fit and well at time of vaccination and nothing else given. On 18 Sep 2016, developed vomiting, and diarrhoea. On 19 Sep 2016, presented to vets with clinical signs as well as lethargic, dehydration and inappetent. A parvo snap test was performed and stated positive (however the snap test was out of date), therefore samples have been sent to external laboratory. Given intravenous fluid therapy, Ranitidine and Cerenia. Await further information.	Siberian Husky	9.7	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (14/09/2016-14/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (14/09/2016-14/09/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04587	United Kingdom	Animal	Canine/dog	Not Known	04/09/2014	21/09/2016	1	1	1	08/09/2014	Yes; R=> Not Known	Decreased heart rate,Pericardial effusion,Death by euthanasia,Lethargy (see also Central nervous system depression in 'Neurological'),Reluctant to move,Off colour,Prolonged capillary refill time,Weak pulse	Not Known	Suspected Adverse Reaction. On 4 Sep 2014, dog vaccinated with booster of Nobvac DHP and Nobvac L4 (unknown temperature). On 8 Sep 2014, dog presented with lethargy, quiet and refusing to get up. Presented and in consult the dog had poor capillary refill time, heart rate and pulse (unknown parameters given). Dog was diagnosed with Pericardial Effusion and been medically treated (unspecified treatment). On 10 Sep 2014, dog went back to kennels. On 11 Sep 2014, dog was euthanised. No further information expected	Boxer (German Boxer)	Not known	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (04/09/2014-04/09/2014) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (04/09/2014-04/09/2014) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04625	United Kingdom	Animal	Canine/dog	15 Week(s)	20/09/2016	27/09/2016	1	1	0	20/09/2016	Not Known	Increased heart rate,Bloody diarrhoea,Staggering,Constricted pupils,Lethargy (see also Central nervous system depression in 'Neurological'),Weakness,Mucous stool,Dry mucous membrane,Unresponsive to stimuli	Not Known	Suspected Adverse Reaction. Vaccinated with Nobvac L4 on 20 Sept 2016. Nurses dog so vaccine given at home. Within 2 hours the puppy became sluggish and very lethargic, weak and wobbly. The puppy was taken to the Vets at 11pm and the puppy was staggering and not responding. Heart rate 180, temperature 38.7 Celsius, mucous membranes were tacky, started on shock rate of intra venous fluids and Dexamethason was given and Chlorphenamine. Heart rate dropped to 148 and temperature 38 Celsius. 11.30pm pin prick pupils and no response from puppy. At 11.53pm the pupils became larger and the puppy woke up, ate and drank and appeared to have recovered. 2 further doses of Chlorphenamine were given thought the night and at 8am on 21 Sept 2016 the puppy had fully recovered. Follow up 27 Sept 2016 - on 22 Sept the puppy had diarrhoea with mucous and fresh blood, Symlox was given and fully recovered.	English Cocker Spaniel	5.47	Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (20/09/2016-20/09/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04635	United Kingdom	Animal	Canine/dog	11 Year(s)	12/11/2015	22/09/2016	1	1	0	23/11/2015	Yes; R=> Yes	Low platelet count,Oral bleeding,Gum disorder NOS,Immune mediated thrombocytopenia,Elevated bile acids	No Data	Suspected adverse reaction Vaccinated on 15 Oct 2015 with Nobvac KC and L4. Then on 12 Nov 2015 had Nobvac L4 only. Seen on 30 Nov 2015 bleeding from the right side of it's mouth, this had started on 23 Nov 2015. The dog was bright and alert. Platelets 4 (175-500 TB/l - <20-15), Bile acids fasting 10.10 (5-0) Bile acids post fatty meal 10.10 (0-10) (see 133 80-100) Dec 2015 seen with bleeding gums X rayed mouth (results unknown), they gave Dexamethasone. The bleeding stopped on an unknown date. Bleeding stopped when seen and a platelet count was 8. They diagnosed with Immune mediated thrombocytopenia (unknown how established) and placed it on prednisone. 22 Sept 2016, still on Prednisone a very reduced dose. No more information expected	Border Collie	18	Nobvac KC - 4,N/A/N/A ,10,0.4 ml 1 Animal (15/10/2015-15/10/2015) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml (12/11/2015-12/11/2015) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04648	United Kingdom	Animal	Canine/dog	9 Week(s)	16/09/2016	22/09/2016	1	1	0	18/09/2016	Yes; R=> Not Known	Diarrhoea,Haemorrhagic diarrhoea,Vomiting,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Suspected adverse reaction. Vaccinated on 16 Sept 2016 with Nobvac DHP and L4 (unknown if given at room temperature). Seen on 22 Sept, owner reported that on 18 Sept the dog had diarrhoea and was lethargic, then started to vomit brown vomit. Developed haemorrhagic diarrhoea and was very lethargic. Was admitted for bloods and supportive treatment, was given intravenous fluids. Parvo snap test was negative and was also negative for parvovirus. Bonnie is improving on supportive treatment. No more information expected	Yorkshire Terrier	0.7	Nobvac DHP - 1,N/A/N/A ,10,1 ml (16/09/2016-16/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml (16/09/2016-16/09/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04676	United Kingdom	Animal	Canine/dog	11 Year(s)	22/09/2016	23/09/2016	1	1	0	23/09/2016	Not Known	Vestibular disorder NOS,Head tilt-ear disorder,Circling - neurological disorder (see also 'Behavioural disorders'),Staggering,Nystagmus,A bnormal test result,Decreased red blood cell count	Not Known	Suspected Adverse Reaction. On 22 Sep 2016, dog vaccinated with first Nobvac L4 (unknown if given at room temperature). On 23 Sep 2016, dog developed vestibular syndrome, such as circling, staggering, head tilt and horizontal nystagmus. Red blood cells 4.92 (5.5-16.96) and a slightly low amyase (no result or reference range given). Given Cerenia and alprazolam and the dog has been hospitalised. No further information expected	English Cocker Spaniel	14.3	Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (22/09/2016-22/09/2016) 	O - Unclassifiable/unassessable	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04679	United Kingdom	Animal	Canine/dog	3 Month(s)	09/09/2016	22/11/2016	1	1	1	11/09/2016	Yes; R=> No	Lack of efficacy,Death	Other	Suspected Lack of Expected Efficacy for lept 20 dogs vaccinated with Nobvac DHP and Nobvac L4 and had similar reactions. See linked case: 2016-UK-04680. On 9 Sep 2016, dog vaccinated with Nobvac DHP and Nobvac L4 (given at fridge temperature, extra label use). On 11 Sep 2016, dog became unwell. On 14 Sep 2016, presented with haemorrhagic diarrhoea, azotaemia and elevated liver parameters: TP 47 (50-72), ALB 21 (26-40), ALP 1156 (12-83), ALT 327 (13-78), GGT 28 (6-14), Bilirubin 186 (0-16), Urea 49.9 (1.7-7.4), Crea 453 (20-124), phos 4.84 (0.8-1.8) and WBC 29.1 (6-17). Dog admitted and given intravenous fluid therapy. On 15 Sep 2016, the dog died and await diagnostics for leptospirosis infection. Follow up 22 Nov 2016 - No further information received. Case closed.	Cavalier King Charles Spaniel	4	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04680	United Kingdom	Animal	Canine/dog	3 Month(s)	09/09/2016	29/09/2016	1	1	0	17/09/2016	Yes; R=> No	Lack of efficacy	Other	Suspected Lack of Expected Efficacy. Two dogs vaccinated with Nobvac DHP and Nobvac L4 and had similar reactions. See linked case: 2016-UK-04679. On 9 Sep 2016, dog vaccinated with Nobvac DHP and Nobvac L4 (not given at room temperature; extra label use). On 17 Sep 2016, dog became unwell and developed fresh blood in faeces and was admitted and given intravenous fluid therapy and was discharged on 22 Sep 2016. Await further information from laboratory results. Follow up 29 Sep 2016 - Reported that on 17 Sep 2016, dog presented vomiting, diarrhoea and lethargic. Given Augmentin and Doxycycline. Laboratory results back and state low levels of Bratislava and results interpret that the titre 1:200 is more likely to be post vaccination rise rather than active clinical disease that "s at a titre of 1:800-1:800). However states when IgM is waning and IgG is no fully boosted until second vaccination. On 23 Sep 2016, presented and fully resolved now. No further information expected.	English Cocker Spaniel	4	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04690	United Kingdom	Animal	Canine/dog	11 Week(s)	12/09/2016	23/09/2016	1	1	0	19/09/2016	Yes; R=> Yes	Corneal oedema,Cloudy eye (for Miosis, Mydriasis, Anisocoria, Nystagmus - see 'Neurological'),Ocular discharge,Scinting	No Data	Suspected Adverse Reaction Vaccinated with Nobvac DHP and Nobvac L4 on 12 Sept 2016. Reported on 19 Sept 2016 when the owner had for 1 week, that the dog was squinting with sticky eyes. Cloudy colour, corneal oedema and some eye uptake but not typical of an ulcer. 20 Sept 2016 improving discharge, corneal oedema remains in both eyes and arm of dye uptake in left eye, none in the right. Antibiotics and lubrication eye drops were given. 23 Sept 2016 much better, still corneal oedema, nearly resolved and only slight dye uptake. Nothing further expected.	Crossbred	2.2	Nobvac DHP - 1,N/A/N/A ,10,1 ml 1 Animal (12/09/2016-12/09/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (12/09/2016-12/09/2016) 	B - Possible	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2016-UK-04838	United Kingdom	Animal	Canine/dog	12 Year(s)	23/08/2016	03/10/2016	1	1	1	0	27/08/2016	Yes; R> Not Known	Diarrhoea,Vomiting,Anorexia,Abnormal test result,Pancreatitis	Not Known	Suspected Adverse Reaction. On 23 Aug 2016, dog vaccinated with Nobivac DHP and Nobivac L4 (unknown if given at room temperature). On 27 Aug 2016, dog presented to emergency practice with vomiting, diarrhoea and anorexia. The dog was admitted for intravenous fluid therapy, Veteregic, Synulox and Cerenia. On 29 Aug 2016, Pancreatic Lipase Immunoreactivity (PLI) was positive and was discharged that evening with Omeprazole, Synulox and Tramadol. On 1 Sep 2016, the dog stopped vomiting and a full resolution on 9 Sep 2016. No further information expected.	Jack Russell Terrier	11	Nobivac DHP - 1,N/A,N/A ,10,1 ml 1 Animal (23/08/2016-23/08/2016) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (23/08/2016-23/08/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04866	United Kingdom	Animal	Canine/dog	3 Month(s)	30/09/2016	05/10/2016	1	1	1	0	01/10/2016	Yes; R> Not Known	Lethargy (see also Central nervous system depression in 'Neurological'),Weakness,Pyrexia,Hind limb ataxia,Stiffness limb,Stiffness NOS,Swollen lymph node,Stiff gait,Skin warmth,Facial swelling (see also 'Skin')	Not Known	Suspected Adverse Reaction. Dog vaccinated with Nobivac vaccines and had similar reactions post vaccination. (see linked cases: 2016-UK-04864 and 2016-UK-04865). On 30 Sep 2016, dog vaccinated Nobivac L4 (unknown if given at room temperature) and Nobivac KC. On 3 Oct 2016, presented as developed 1 and 2 Oct 2016 dog was lethargic, swelling on right side of face and urinated in crate overnight. On examine was lethargic, submandibular swelling and pyrexia and given antibiotics and non-steroidal anti-inflammatories. On 4 Oct 2016, lethargic, warm to touch, weak and wobbly on hind limb. Presented with lethargic, pyrexia, stiffness, submandibular lymph node swelling mild and suspected Polyarthritits. Placed on intravenous fluid therapy and intravenous antibiotics. On 5 Oct 2016, dog stable and still pyrexia and still a stiff gait on all four limbs but worse on hind limbs. No further information expected.	Border Collie	Not Known	Nobivac KC - 4,N/A,N/A ,10,0.4 ml 1 Animal (30/09/2016-30/09/2016) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (30/09/2016-30/09/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04969	United Kingdom	Animal	Canine/dog	10 Year(s)	09/09/2016	07/10/2016	1	1	0	10/09/2016	Not Known; R> Yes	Appetite loss,Collapse of leg	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac PI and Nobivac L4 on 9 Sept 2016. Owner reported that 24 hours after the vaccine, the dog went off his legs for 3 days and went off food. The dog recovered approx after 20 days. The dog did not have a second Nobivac L4. Nothing further expected.	Boxer (German Boxer)	43	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) R> Nobivac PI - 1,N/A,N/A ,10,1 ml 1 Animal (09/09/2016-09/09/2016) 	B - Possible	NCA agrees with the MAH assessment.	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04972	United Kingdom	Animal	Canine/dog	14 Week(s)	26/09/2016	07/10/2016	1	1	0	26/09/2016	Yes; R> Not Known	Colitis,Unable to stand,Lethargy (see also Central nervous system depression in 'Neurological'),Shaking,Abdominal discomfort,Eyes rolling back	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 26 Sept 2016. Owner reported that the same evening the dog was very lethargic and rolling her eyes and unable to stand. Seen by the emergency Vets and bright but had mild discomfort on abdomen palpation. Metacam was given. 7 Oct 2016 Similar episode today of rolling eyes and lethargy but also shaking with mucous colitis. No treatment given and seems to monitor. Vet suspects the dog has other problems, but owner reluctant to investigate. Nothing further expected. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10X1D5 125 Reason: Vaccination Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 541 Reason: Vaccination] [State of health: Good]	Whippet	3.8	Nobivac DHP - 1,N/A,N/A ,10,1 ml 1 Animal (26/09/2016-26/09/2016) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (26/09/2016-26/09/2016) 	B - Possible	NCA agrees with the MAH assessment.	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04991	United Kingdom	Animal	Canine/dog	2 Year(s)	02/12/2015	17/10/2016	1	1	0	03/12/2015	Yes; R> Yes	Pyrexia	No Data	Suspected Adverse Reaction. On 2 Dec 2015, dog vaccinated with Nobivac DHP and Nobivac L4 (unknown if given at room temperature), fit and well and no other products given. On 3 Dec 2015, presented pyrexia and admitted for intravenous fluid therapy and no abnormalities in blood tests. On 4 Dec 2015, dog discharged and pyrexia resolved but no further clinical signs. No further information expected. Follow up 17 Oct 2016, the reported pyrexia appeared to be a temperature of 104 degrees Fahrenheit (40.0 Celsius) lasting for one day. With normal blood values and absence of any other signs, the case is downgraded to non-serious due to this information. No further information expected.	Labrador Retriever	17.4	Nobivac DHP - 1,N/A,N/A ,10,1 ml 1 Animal (02/12/2015-02/12/2015) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (02/12/2015-02/12/2015) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04995	United Kingdom	Animal	Canine/dog	16 Year(s)	05/10/2016	10/10/2016	1	1	0	06/10/2016	Yes; R> No	Diarrhoea,Bloody diarrhoea,Vomiting,Abnormal breathing,General pain (see other SOCs for specific pain),Lethargy (see also Central nervous system depression in 'Neurological'),Pleural effusion,Not eating	Other	Suspected Adverse Reaction Vaccinated on 5 Oct 2016 with Nobivac DHP and Nobivac L4. Given Nobivac L4 straight from the fridge (Extra Label Use). The dog has concurrent cardiac, disease and on an unknown treatment, but currently well. 9 Oct 2016 Presented out of hours as vomiting with diarrhoea since 6 Oct 2016, lethargic and not eating. Pleural effusion. Started on intravenous fluids, Methadone, Cerenia and Dimazon. Discharged later that day on Tramadol and Prokinol. 10 Oct 2016 no further vomiting and dog brighter and eating. Diarrhoea with blood. Metronidazole and Vetmedin given. Reported that was placed on Vetmedin due to the dogs breathing, but it is unknown what the exact clinical signs were. Owner was concerned the dog was in pain, so Tramadol given. Unknown clinical signs of the dog being in pain. Nothing further expected.	Siberian Husky	28.1	Nobivac DHP - 1,N/A,N/A ,10,1 ml 1 Animal (05/10/2016-05/10/2016) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (05/10/2016-05/10/2016) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-04998	United Kingdom	Animal	Canine/dog	11 Week(s)	27/09/2016	02/11/2016	1	1	0	27/09/2016	Yes; R> Yes; R> No	Seizure NOS	Other	Suspected adverse reaction Chihuahua pup vaccinated on 27 Sept 2016 with Nobivac DHP and L4 (straight form fridge ELU) Also had Advocate applied at the same time. Seen on 11 Oct 2016 for a second Nobivac DHP and the owner reported that 3 hours after the first vaccination the dog had 2 seizures, they had thought the dog was hypoglycaemic at the time, the dog has had no other issues since. No more information expected	Chihuahua	1.3	Advocate Spot-on Solution for Small Dogs - 1,N/A,N/A ,24,1 Dose (1 Day(s) 27/09/2016-27/09/2016) R> Nobivac DHP 1,N/A,N/A ,10,1 ml (27/09/2016-27/09/2016) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml (27/09/2016-27/09/2016) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-05008	United Kingdom	Animal	Canine/dog	18 Month(s)	04/10/2016	31/10/2016	1	1	0	09/10/2016	Yes; R> Yes	Tachycardia,Decreased packed cell volume (PCV),Decreased haemoglobin,Immune mediated haemolytic anaemia,Dehydration,Thrombocytopenia,Leucocytosis,Pale mucous membrane,Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Regenerative anaemia	No Data	Suspected Adverse Reaction. On 4 Oct 2016, dog vaccinated with Nobivac DHP and Nobivac L4 (unknown if given at room temperature). On 9 Oct 2016, lethargic and pale mucous membranes, presented dehydrated, tachycardia and pyrexia. On 10 Oct 2016, manual PCV 17 (35-57) and examination of blood smears showed agglutination positive and spherocytes. A blood transfusion and PCV 29 (35-57). Reported that dog has a history of access to dirty water. Await further information. Follow up 21 Oct 2016 - Bloods carried out on 10 Oct 2016- Haemoglobin 3.9 (12-18), PCV 0.13/ (0.37-0.56/), White Blood Cells 32.6 (5-18), Platelets 131 (200-500). Possible intracellular parasite on the blood smears, treated with Imidocarb and Doxycycline and improving. Anaemia appears to be mildly regenerative, blood results suggest Immune Mediated Haemolytic Anaemia, await further information. Follow up 31 Oct 2016 - 24 Oct 2016 PCV 34% (35-57%), and doing really well. Bloods carried out on 25 Oct 2016 show slightly decreased Red Blood Cells, slightly increased White Blood Cells and activated platelets overlying the Red Blood Cells (unknown exact results), no parasites observed. Immune Mediated Haemolytic Anaemia was confirmed by autoagglutination. Nothing further expected. 27 Oct 2016, Anaemia was stable.	English Springer Spaniel	13.1	Nobivac DHP - 1,N/A,N/A ,10,1 ml 1 Animal (04/10/2016-04/10/2016) R> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (04/10/2016-04/10/2016) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-05014	United Kingdom	Animal	Canine/dog	11 Year(s)	26/09/2016	11/10/2016	1	1	0	01/10/2016	Yes	Injection site swelling,Injection site pain,Anaemia NOS,Low platelet count,Eosinophilia,Leucocytosis,Lymphocytosis,Neutropenia,Leukaemia,Pale mucous membrane,Hypocalcaemic condition,Lameness,Ataxia,Inappetence,Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Abnormal test result,Hypalbuminaemia,Hypoglycaemia,Elevated BUN,Elevated SAP,Inversion of albumin/globulin ratio,Decreased haemoglobin,Decreased packed cell volume (PCV),Elevated gamma-glutamyl transferase (GGT),Elevated cholesterol (total)	No Data	Suspected Adverse Reaction. On 26 Sep 2016, dog vaccinated with Nobivac L4. On 1 Oct 2016, dog developed a 1.5cm swelling at injection site and pyrexia, given antibiotics and non-steroidal anti-inflammatory. On 9 Oct 2016, dog presented to emergency practice and reports injection site mass nearly resolved but now lethargic, inappetent and pyrexia. The dog was also unsteady on legs and lame on right forelimb. Given Synulox, intravenous paracetamol (P) and Cerenia and sent home. On 10 Oct 2016, injection site mass completely resolved, however still pyrexia and mucous membranes pale. Admitted for intravenous gelofusion and manual PCV 18 (35-57) and temperature normal. Blood results taken state: RBC 2.51 (5.39-8.7), Haemoglobin 0.198 (0.383-0.565), MCV 78.9 (59-76), MCHC 313 (326-392), WBC 40.3 (4.9-17.6), Neutrophils 0 (2.94-12.07), Lymphocytes 17.33 (1.06-4.95), Eosinophils 0 (0.07-1.49), Platelets 27 (143-448), Glucose 3.3 (3.6-7), Urea 10.6 (3.1-10.1), SMMa 19 (1-14), Calcium 2.11 (2.36-2.84), Albumin 18.2 (26.3-38.2), Albumin/globulin ratio 0.47 (0.70-1.40), ALP 359 (<130), GGT 1.5 (2.5-10.6), Cholesterol 7.33 (3.20-6.20) and T4 7.4 (13-51). Idex confirmed Lymphoblastic leukaemia. No further information expected [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 541 Reason: Vaccination] [State of health: Good]	Golden Retriever	27.8	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (26/09/2016-26/09/2016) 	A - Probable	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-05015	United Kingdom	Animal	Canine/dog	8 Year(s)	10/12/2015	11/10/2016	1	1	0	01/02/2016	Yes	Seizure NOS	No Data	Suspected Adverse Reaction History of seizures in Jun and Jul 2015. Bloods were carried out and showed High Toxoplasmosis levels. Nobivac L4 given on 10 Dec 2015. Another seizure in Feb 2016 and more recently in Oct 2016, unknown exact date. No diagnostics have been carried out. Nothing further expected	Other Canine/dog	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10,1 ml 1 Animal (10/12/2015-10/12/2015) 	O - Unclassifiable/unassessable	NCA agrees with MAH assessment	

NOBIVAC L4	GBR-MERCKMSD-2016-UK-06060	United Kingdom	Animal	Canine/dog	8 Week(s)	14/11/2016	28/11/2016	1	1	1	0	17/11/2016	Yes R> Yes	Weight loss,Appetite loss,Vomiting,Abnormal test result,Diarrhoea,Leucopenia	No Data	Suspected Adverse Reaction Vaccinated with Nobvac DHP and Nobvac L4 on 14 Nov 2016. 17 Nov 2016 presented as off food, vomiting, small amounts of diarrhoea, weight loss. The dog was admitted for intravenous fluids, Virbagen, Amoxicillin, Metronidazole, Cerenia, Ranitidine, Veteregic, Metoclopramide, Potassium Chloride and Dughalyte, bloods were taken that showed severe leucopenia and protein losing enteropathy. Snap test for Parvo positive. The dog was reported to be doing well and going home, on an unknown date. Nothing further expected.	English Springer Spaniel	3.37	Nobvac DHP - 1,N/A/N/A, 10,1 ml 1 Animal (14/11/2016-14/11/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (14/11/2016-14/11/2016) 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06062	United Kingdom	Animal	Canine/dog	8 Year(s)	22/11/2016	03/01/2017	1	1	0	26/11/2016	Yes R> No	Injection site swelling,Injection site pain,Injection site serosanguinous discharge,Injection site ulcer,Dermatitis,Inappetence,Inject on site panniculitis,Abnormal test result,Injection site fibrosis	Other	Suspected Adverse Reaction: On 22 Nov 2016, dog vaccinated with Nobvac DHP and Nobvac L4 (not given at room temperature/extra label use). Fit and well at time of vaccination. On 26 Nov 2016 swelling developed back of the neck. On 28 Nov 2016, on clinical examination as painful and ulcerated on right side of neck. Temperature 39.3 degrees Celsius and is inappetent. Given Metacam, Codeine and Clavaseptin. No further information expected. Follow up 1 Dec 2016 - seen on 28 Nov 2016 at emergency clinic, as owner concerned with the swelling and was very painful, 29 Nov 2016 temperature 38.5 Celsius, painful and swollen and oozing sero sanguineous fluid. The dog was admitted and given a general anaesthetic, debrided and biopsy was taken, drain was placed. 1 Dec 2016 still oozing through he drain but brighter in self. Await swab results, open case. Upgraded to serious case. Follow up 3 Jan 2016 - Biopsy was also taken, results returned as pyogranulomatous panniculitis with septal fibrosis and dermatitis. Histology results indicate a consistency with inflammation. Examined on 3 Dec 2016 wound is healing nicely and drain was removed. 5 Dec 2016 Streptococcus Canis identified on swab results. Sutures removed on 9 Dec 2016. Nothing further expected.	Bichon Frise	4.8	Nobvac DHP - 1,N/A/N/A, 10,1 ml 1 Animal (22/11/2016-22/11/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (22/11/2016-22/11/2016) 	B - Possible	NCA agrees with the MAH assessment.	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06067	United Kingdom	Animal	Canine/dog	11 Week(s)	01/11/2016	28/11/2016	1	1	0	01/11/2016	Yes R> B	Tarry or black stool (see also haemorrhagic diarrhoea),Vomiting,Hypothermia,Lethargy (see also Central nervous system depression in "Neurological"),Unable to rise	No Data	Suspected Adverse Reaction. Dog vaccinated with Nobvac DHP and Nobvac L4 and had similar reactions post first and second course such as lethargy, gastrointestinal issues and collapse. See linked case: 2016-UK-06070. On 1 Nov 2016, puppy vaccinated with Nobvac DHP and Nobvac L4, fit and well and no other products given. On same day, dog was lethargic post vaccination. On 2 Nov 2016, presented as lethargic, unable to get up, had black diarrhoea and vomiting and was flat with a temperature of 36.4 degrees Celsius. Blood tests performed showing no abnormalities and parvovirus negative on snap. Admitted and given intravenous fluid therapy and Cerenia. On 3 Nov 2016, resolved and was discharged on Metronidazole and Panacur. No further information expected.	English Cocker Spaniel	4.83	Nobvac DHP - 1,N/A/N/A, 10,1 ml 1 Animal (01/11/2016-01/11/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (01/11/2016-01/11/2016) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06079	United Kingdom	Animal	Canine/dog	5 Year(s)	25/11/2016	29/11/2016	1	1	0	27/11/2016	Yes R> Yes	Seizure NOS,Recumbency,Pyrexia,Padding	No Data	Suspected Adverse Reaction. Vaccinated with Nobvac DHP and Nobvac L4 on 25 Nov 2016. Surolium dispensed, unknown reason and not confirmed was given. Dog was very excited at the Vets. Reported to have had a seizure on 27 Nov 2016, padding, recumbent and lasted 2 minutes, fully recovered after. Presented on 28 Nov 2016 with temperature 40.4 Celsius, no medication given. Nothing further expected.	Labrador Retriever	21.9	Nobvac DHP - 1,N/A/N/A, 10,1 ml 1 Animal (25/11/2016-25/11/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (25/11/2016-25/11/2016) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06087	United Kingdom	Animal	Canine/dog	4 Month(s)	17/10/2016	07/12/2016	1	1	1	18/11/2016	Yes R> Yes R> Yes	Death by euthanasia,Lack of efficacy	No Data	Suspected Lack of Expected Efficacy for Lepto. On 12 Aug 2016, dog vaccinated with Nobvac KC. On 15 Sep 2016, puppy vaccinated with first Nobvac DHP and Nobvac L4. On 17 Oct 2016, puppy vaccinated with second dose of Nobvac DHP and Nobvac L4. On 21 Nov 2016, presented to reporting practice as for the last 24 hours developed vomiting, diarrhoea and depressed. In consult, jaundiced mucous membranes, abdominal pain and dehydrated. Blood tests show: RBC 5.22 (5.65-8.87), PCV 0.329 (0.373-0.617), haemoglobin 121 (131-205), Monocytes 2.27 (0.16-1.12), Platelet 62 (148-484), Urea 32.6 (2.5-10.4), Creat 401 (27-106), phosphorus 4.52 (1.65-3.36), calcium 3.51 (1.95-3.15), sodium 140 (145-157), chloride 102 (105-119), ALT 122 (8-75), ALP 454 (46-337), GGT 15 (0-2) and total Bilirubin 176 (0-14). An Idexx Leptospira PCR EDTA positive and Leptospira PCR urine positive. Admitted and given symptomatic treatment. On 22 Nov 2016, blood tests: RBC 3.90 (5.65-8.87), PCV 0.245 (0.373-0.617), haemoglobin 89 (133-205), Monocytes 2.18 (0.16-1.12), Platelet 57 (148-484), Urea 42.7 (2.5-10.4), phos >5.20 (1.65-3.36), calcium 3.56 (1.95-3.15), sodium 141 (145-157), ALT 108 (8-75), GGT 17 (0-2), total bilirubin 235 (0-14), Amylase 1633 (300-1300), Creat 579 (27-106). On 24 Nov 2016, PCV 0.372 (0.373-0.617), WBC 28.25 (5.05-16.76), Neutrophils 23.30 (2.95-11.64), monocytes 1.28 90.16-1.12), platelet 22 (148-484), glucose 11.27 (4.26-8.34), urea >46.4 (2.5-10.4), phos >5.20 (1.65-3.36), calcium 3.76 (1.95-3.15), globulin 39 (23-38), ALT 143 (8-75), GGT 16 (0-2), total bilirubin 477 (0-140), amylase 1380 (300-1300). On same day, dog was euthanased. No further information expected. Follow up 7 Dec 2016 - History received: Dog was presented on 21 Nov 2016 the dog had a 3 day history of vomiting, vomited back hoofs it was fed, brought up large pieces. 19 Nov 2016 reported to be fine, 20 Nov 2016 reported to be vomiting again, eating plants in the garden and some rubber toys. On examination the dog was depressed, jaundice with slightly pale mucous membranes, Painful on cranial abdomen. The dog was admitted and placed on intra venous fluids. Ultrasound was performed and no abnormalities, the dog had an exploratory laparotomy, lymph nodes were noted as being enlarged, inflamed gallbladder, lymph node obstruction, intestines toxic. Biopsy of the lymph nodes were sent away. Lepto PCR on blood smear at external laboratory. Amoxicillin was given, Cerenia and the dog was barrier nursed. In the afternoon the dog had a temperature of 36 Celsius, heart rate 128, mucous membranes yellow tinge, hypersalivation, head down and quiet. Started critical care nursing. During the evening the puppy temperature did not rise above 37.7 Celsius, passed diarrhoea and retching. Flat but	Staffix	15.3	Nobvac DHP - 1,N/A/N/A, 10,1 ml 1 Animal (17/11/2016-17/11/2016) Nobvac KC - 4,N/A/N/A, 10,0.4 ml 1 Animal (12/08/2016-12/08/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (17/10/2016-17/10/2016) 	B - Possible	NCA agrees with MAH assessment	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06088	United Kingdom	Animal	Canine/dog	9 Week(s)	19/11/2016	29/11/2016	1	1	0	22/11/2016	Not known	Leucocytosis,Head tilt - ear disorder,Corneal oedema,Miosis,Depression,Abnormal test result,Elevated liver enzymes,Elevated ALT,Elevated SAP	Not known	Suspected Adverse Reaction Vaccinated with Nobvac L4 on 19 Nov 2016. Vaccine was given at another Practice, not the reporting Practice. 22 Nov 2016 depressed, head tilt to the right, left eye spasms miosis, corneal oedema in left eye. Raised liver enzymes-no exact results given. ALKP 757 (12-83), ALT 221 (13-78), White Blood Cells 17 (6-15), urine sent off and positive for Lepto PCR. The puppy was admitted for intra venous fluids and antibiotics. 29 Nov 2016 puppy reported to be better but not fully recovered. Nothing further expected.	Crossbreed	Not known	Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10,1 ml 1 Animal (19/11/2016-19/11/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.	
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06109	United Kingdom	Animal	Canine/dog	10 Week(s)	03/11/2016	23/12/2016	1	1	1	14/11/2016	Yes R> Yes R> Yes	Enlarged lymph nodes (generalised),Dull,Bone marrow disorder NOS,Pyrexia,Death by euthanasia,Joint pain,Mouth pain	No Data	Suspect adverse reaction: A three month old female collie received her first vaccination on the 3rd of November 2016 using Nobvac DHP1 and L4. On the 14th of November 2016 the puppy attended the vet with pyrexia, it was dull and lethargic. The owners reported that the pup had fallen off a wall a few days previously and hit it's head. There was no muscle pain and no neck pain on examination. The pup was treated with non-steroidal anti-inflammatories and antibiotics. On the 18th of November the pup was still dull and had sore joints. Submandibular lymph nodes were swollen. The pup was reluctant to open it's mouth. Treatment with antibiotics and non-steroidal anti-inflammatory drugs continued. The dog improved a few days later. A similar episode was seen after the second vaccination was given on the 28th of November 2016. Case linked to 2016 - UK - 6109. Follow up 23rd December 2016: Diagnostic work up revealed a diagnosis of trapped neurolymph syndrome. Dog was euthanased on the 22nd of December 2016. No more information expected. Linked to VMD ref 6751/16 MAH ref GB-NLINTVINT-2016-UK-06521.	Other Canine/dog	Not known	Nobvac DHP1, lyophilisate and solvent for suspension for injection for dogs - 1,N/A/N/A, N/A,1 Vial/Ampoulet(s) 1 Animal (25 Day(s) 03/11/2016-03/11/2016) Nobvac L4 Suspension for Injection for Dogs - 1,N/A/N/A, N/A,1 Vial/Ampoulet(s) 1 Animal (25 Day(s) 03/11/2016-28/11/2016) 	O1 - Inconclusive	Although the presence of an underlying condition was the likely rational for euthanasia, there was a close temporal association between the onset of some of the symptoms and both the first and second vaccinations. Therefore, vaccine involvement cannot be ruled out in this case.	

NOBIVAC L4	GBR-MERCKMSD-2016-UK-06313	United Kingdom	Animal	Canine/dog	4.1 Year(s)	08/12/2016	09/12/2016	1	1	0	08/12/2016	Yes; Yes; Yes; Yes	Pale mucous membrane,Diarrhoea,Vomiting,Off colour,Weak pulse	No Data	Suspected Adverse Reaction Vaccinated with Nobivac KC, Nobivac L4 and Nobivac DHP on 8 Dec 2016. Within 5 minutes the dog was very quiet, white mucous membranes, tready pulse, vomited and diarrhoea. Dexamedron was given, 15 minutes later remained pale but was brighter 25 minutes post vaccine. Nothing further expected.	Crossbred	5.1	Nobivac DHP - 1,N/A,N/A ,10.1 ml 1 Animal (08/12/2016-08/12/2016) Nobivac KC - 4,N/A,N/A ,10.0,4 ml 1 Animal (08/12/2016-08/12/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (08/12/2016-08/12/2016) 	B - Possible	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06419	United Kingdom	Animal	Canine/dog	9 Month(s)	06/06/2016	15/12/2016	1	1	1	17/11/2016	Yes; Yes; Yes	Death by euthanasia,Lack of efficacy (parvovirus)	No Data	Suspected Lack of Expected Efficacy for parvo. Vaccinated from rehoming centre with second Nobivac DHP on 18 May 2016, previous vaccine given elsewhere, unknown dates, second vaccine with Nobivac L4 on 6 Jun 2016. 17 Nov 2016 vomiting for 24 hours, depressed, off colour, blood stained faeces on thermometer, not dehydrated. Carprofen and Cerenia. 21 Nov 2016 fresh blood in faeces, watery diarrhoea. Protein dispensed and relatively bright. 22 Nov 2016 off food, no more haemorrhagic diarrhoea, but quiet, not eaten or drunk, mucous membranes pale, abdomen sore and painful, given Buprenorphine, Cerenia, Betamox LA and rehydration sachets. 23 Nov 2016 seems worse, depressed, no diarrhoea, no vomiting, abdomen more painful. Admitted for IV fluids. Radiographs show gassy intestines (history of scavenging) and barium was given and appeared to be moving along. Started on Zantac, continue Buprenorphine, Cerenia, Norocav. Bloods showed WBC high, but no result supplied, liver enzymes raised and mild-moderate hyper proteinemia-no results supplied. The dog was sent home overnight as the owner is a human nurse. 24 Nov 2016 flat, depressed and had some diarrhoea, licking lips and retching, burping. Repeated barium radiographs and scanty barium in intestines. The dog had an exploratory Laparotomy that showed the ilium and jejunum inflamed, mesenteric lymph nodes massively inflamed, lymphoid patches visible in intestines, emptied stomach contents and closed. Suspected severe gastro intestinal, no biopsies taken. The dog was presented at emergency over the weekend, supportive care, started Metronidazole, intra venous antibiotics, Zinacef, Methadone, Metoclopramide and ranitidine. 28 Nov 2016 the dog was discharged on 27 Nov 2016 as brighter. Placed on oral Ranitidine and anti biotics. 29 Nov 2016 fed and started to vomit and have diarrhoea. 30 Nov 2016 flat, depressed, temperature 38.7 C, radiographs showed tiny amounts of barium, suspected stasis. Ultrasound carried out and no abnormalities found. Hyper proteinemia reported to be worse, no results given. Continue on supportive care, continue on medications and started on Baytril 1 Dec 2016. 5 Dec 2016 The dog was euthanased. Parvo test was carried out on a previous blood sample, Parvo serology 1:640 no ELISA or PCR carried out. Nothing further expected.	Schnauzer	7.8	Nobivac DHP - 1,N/A,N/A ,10.1 ml 1 Animal (18/05/2016-18/05/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (06/06/2016-06/06/2016) 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06436	United Kingdom	Animal	Canine/dog	2 Month(s)	04/12/2016	16/12/2016	1	1	0	15/12/2016	Yes; Yes; Yes	Seizure NOS	No Data	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 4 Dec 2016. Presented on 15 Dec 2016 as had a seizure at home. No abnormalities on exam or bloods. Owner was due to bring the dog back again but refused, owner believes it is the Nobivac L4. Nothing further expected.	Labrador Retriever	6.5	Nobivac DHP - 1,N/A,N/A ,10.1 ml 1 Animal (04/12/2016-04/12/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (04/12/2016-04/12/2016) 	N - Unlikely	Not a close time association, and clinical signs unexpected. Many other causes of convulsion in a young dog.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06474	United Kingdom	Animal	Canine/dog	10 Year(s)	30/04/2016	10/01/2017	1	1	0	30/05/2016	Not known; Yes; Yes; Not known	Lack of efficacy,Lack of efficacy (endoparasite NOS)	Not known	Suspected Lack of Expected Efficacy for Lepto and for Panacur Vaccinated with primary Nobivac L4 on 30 Apr 2016 and Nobivac PL 24 May 2016 the dog had a dental and pre general anaesthetic bloods were carried out, ALKP high, no result supplied. Second Nobivac L4 was given on 27 May 2016. 24 Jun 2016 ALKP 800 (no range supplied), ACTH was normal, Low Dex test was carried out for Cushings, and normal. 22 Jul 2016 ALKP 1000 (no range supplied) 19 Aug 2016 Ultrasound carried out, showed diffuse hepatomegaly, suspicious pancreas is prominent, started on Denamarin and Destolit 23 Sept 2016 ALKP 800 (no range supplied) 30 Sept 2016 haemorrhagic diarrhoea, started on Prokinol and Synxolox. 11 Oct 2016 ongoing diarrhoea, faecal sample sent away and showed Giardia and possible Giardia. Panacur granules started for unknown dates 16 Nov 2016 Giardia positive, Panacur started again. 12 Dec 2016 Giardia negative, continue Destolit and Denamarin. ALKP has reduced but no known range. 20 Dec 2016 Semi formed stools, some blood in faeces. Eating well and seems stable. Owner reports that recently had a rat problem and worried about Liver disease. Practice reported as a SLEE only. Follow up 10 Jan 2016 - Blood and Urine PCR negative for Lepto, no serology has been carried out. The dog is bright and lively but still ongoing diarrhoea, currently on Metronidazole. Nothing further expected.	West Highland White Terrier	9.45	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (30/04/2016-30/04/2016) Nobivac PL - 1,N/A,N/A ,10.1 ml 1 Animal (30/04/2016-30/04/2016) Panacur Granules 22.2% w/w - 1,N/A,N/A ,24.1 Dose 1 Animal (N/A-18/10/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06480	United Kingdom	Animal	Canine/dog	13 Year(s)	06/07/2016	16/01/2017	1	1	1	19/07/2016	Yes; Not known	Heart failure,Heart disorder aggravated,Heart murmur,Cough,Death by euthanasia,Lethargy (see also Central nervous system depression in 'Neurological'),Off colour,Lung sound,Respiratory signs,Heart valve disorder,Abnormal ultrasound finding	Not known	Suspected adverse reaction Vaccinated in 2016 with Nobivac L4 (exact date unknown) then the dog became unwell (time frame is unknown) on investigation it had crackles on its lungs and was found to have advanced heart disease. Open case, await further information Dog was vaccinated in 2015 with Nobivac L4 and became ill, see case ZD16-UK-06478. Follow up 12 Jan 2017 - Vaccinated with Nobivac DHP and Nobivac L4 on 6 Jul 2016. 19 Jul 2016 reported to be not right, coughing and respiratory problems at home, quiet and lethargic. On examination there were crackles ventral lung fields and a loud systolic heart murmur. Ultrasound was carried out and showed an enlarged atrium, mitral valve thickening and severe heart failure. The dog was euthanased on 25 Jul 2016. No post mortem has been carried out and nothing further expected. Follow up 16 Jan 2018 - No further information received. VEDORA code "abnormal ultrasound finding" added. Case closed.	Other Canine/dog	9.15	Nobivac DHP - 1,N/A,N/A ,10.1 ml 1 Animal (06/07/2016-N/A) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml (06/07/2016-N/A) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06481	United Kingdom	Animal	Canine/dog	3.7 Month(s)	19/12/2016	20/02/2017	1	1	0	19/12/2016	Not known; Yes; Yes; Yes; Yes	Miscellaneous eating disorder NOS,Biting-aggression (see also 'Skin and appendages disorders'),Blindness,Strabismus,Circling - neurological disorder (see also 'Behavioural disorders'),Localised pain NOS (see other 'SOCs' for specific pain),Foaming at the mouth,Head pressing	No Data	Suspected Adverse Reaction. On 19 Dec 2016, dog vaccinated with second part of primary course of Nobivac DHP and Nobivac L4, also given half a Milbemax tablet. Fit and well at time of vaccination. Reported 5-6 hours later dog presented with neurological signs: frothing at the mouth, biting, strabismus in right eye, circling, head pressing, difficulty eating, pain in dorsal movement of neck and potentially blind. Given Dexamedron and admitted for observation. On 20 Dec 2016, the dog had improved enough to be sent home. That evening, presented again as clinical signs had all come back and was given Dexamedron and admitted for observations. On 21 Dec 2016, the dog still had clinical signs and later that evening was sent home with a course of prednisolone. Await further information. Follow up 5 Jan 2017 - ongoing neurological signs particularly after feeding, suspected liver shunt, awaiting results of blood tests. Owner is considering euthanasia.	Maltese	1.03	Milbemax unidentified - 5,N/A,N/A ,24.0,5 Dose 1 Animal (19/12/2016-19/12/2016) Nobivac DHP 1,N/A,N/A ,10.1 ml 1 Animal (19/12/2016-19/12/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (19/12/2016-19/12/2016) 	B - Possible	Temporal association between administration and reaction is very strong (5 hours), therefore even if neurological signs are not expected, a product involvement cannot be excluded. Administered concurrently with other 2 products
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06483	United Kingdom	Animal	Canine/dog	Not known	01/01/2016	21/12/2016	50	10	5	01/01/2016	Not known	Injection site pain,Seizure NOS,Death	Not known	Suspected Adverse Reaction-Limited information Vet reported that they had observed death of a litter of puppies (estimated 5), stinging at vaccine site (estimated 1) and seizures (reported 3-4 dogs) after Nobivac L4. No further details are available, unable to gain any further information and nothing available on specific cases,despite numerous attempts. Nothing further expected.	Other Canine/dog	Not known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (01/01/2016-01/01/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06506	United Kingdom	Animal	Canine/dog	3 Month(s)	25/11/2016	23/12/2016	1	1	0	29/11/2016	Yes; Not known	Diarrhoea,Lethargy (see also Central nervous system depression in 'Neurological'),General illness	Not known	Suspected Adverse Reaction Vaccinated with Nobivac L4 and Nobivac DHP on 25 Nov 2016. Presented with profuse diarrhoea and very flat on 29 Nov 2016. Foreign body was suspected and hospitalised. Nothing to detect that a foreign body was present and the puppy recovered over a few days. Unknown exact date of recovery. Vet reports the dog is not right generally and suspects a CNS brain lesion. Advised MRI. Puppy is due second Nobivac L4. Nothing further expected.	Cavalier King Charles Spaniel	Not known	Nobivac DHP - 1,N/A,N/A ,10.1 ml 1 Animal (25/11/2016-25/11/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (25/11/2016-25/11/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2016-UK-06521	United Kingdom	Animal	Canine/dog	3 Month(s)	28/11/2016	10/01/2017	1	1	1	28/11/2016	Yes; Yes; Yes	Death by euthanasia,Pyrexia,Abnormal test result,Bone marrow disorder NOS,Dull	No Data	Suspect adverse reaction: A three month old female collie received her second vaccination of the primary course on the 28th of November 2016 using Nobivac DHP and L4. A few hours later, the owners reported that the pup became dull. Temperature was 40C. Treatment with non-steroidal anti-inflammatory drugs was administered. The puppy had a similar episode 11 days after her first vaccination was administered on the 3rd of November 2016 using Nobivac DHP and L4. Follow up on 23 Dec 2016: Diagnostic work up revealed a diagnosis of trapped neutrophil syndrome. Dog was euthanased on the 22 December 2016. No more information is expected. Follow up 10 Jan 2017: Case linked to 2016-UK-6109 as a similar reaction was seen after the first vaccination also. No more information expected.	Other Canine/dog	3	Nobivac DHP, Lyophilisate for Injection for Dogs - 1,N/A,N/A ,10.1 ml 1 Animal (28/11/2016-28/11/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A ,24.1 vial(Ampoules) 1 Animal (28/11/2016-28/11/2016) 	O1 - inconclusive	Although the presence of an underlying condition was the likely rational for euthanasia, there was a close temporal association between the onset of some of the symptoms and both the first and second vaccinations. Therefore, vaccine involvement cannot be ruled out in this case.

NOBIVAC L4	GBR-MERCKMSD-2017-UK-00586	United Kingdom	Animal	Canine/dog	9 Week(s)	27/01/2017	03/04/2017	1	1	0	27/01/2017	Yes; R= Not Known	Circling - neurological disorder (see also 'Behavioural disorders'),Ataxia,Disorientation,Co-ordinated pupils,Inappetence,Not drinking,Elevated temperature,Abnormal test result,Decreased haemoglobin,Decreased packed cell volume (PCV),Change in blood protein NOS,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Suspected adverse reaction Vaccinated on 27 Jan 2017 with Nobivac DHP and L4. Was sleepy for the next few days. Seen on 31 Jan 2017 with no vomiting and diarrhoea, eating and drinking well, Inappetence since 30 Jan. On examination was off balance, circling and bumping into things, restless. Temperature 101.7, placed on intravenous fluids, diarrhoea and syncope. 1 Feb was more settled. Bloods taken HCT 32.7 (37-55) HGB 10.1 (12-18) Urea 1.3 (2.5-10.4) Creat 15 (27-106) TP 47 (48-72) Amylase 268 (200-1300) Given Desadren and syringed water, syringe feeding, constricted pupils. Open case await more information Follow up 3 April 2017 No more information received, close case.	Staffordshire Bull Terrier	3.1	Nobivac DHP - 1,N/A/N/A ,10.1 ml (27/01/2017-27/01/2017)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml (27/01/2017-27/01/2017)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-00619	United Kingdom	Animal	Canine/dog	11.5 Year(s)	26/01/2017	14/02/2017	1	1	1	26/01/2017	Yes	Vomiting,Diarrhoea,Liver tumour,Permal thickening,Death by euthanasia,Inappetence,Elevated temperature,Weight loss,Injection site panniculitis,Third eyelid protrusion,Monoparesis (paralysis of limb),Hypoalbuminaemia,Pancreatitis,Elevated renal parameters,Hyperphosphataemia,Elevated total bilirubin,Elevated SAP,Abnormal radiograph finding,Injection site mass,Decreased packed cell volume (PCV),Elevated gamma-glutamyl transferase (GGT),Monocytosis,Injection site abscess,Eosinophilia,Leucocytosis, Neutrophilia,Conjunctivitis	No Data	Suspected adverse reaction Vaccinated on 29 Dec 2016 with Nobivac L4. Seen on 26 Jan 2017 for Nobivac L4 vaccination, owner informed them the dog has lost 9% body weight but does have a picky appetite. It was normal on examination. Seen on 28 Jan 2017, owner reported straight after the second vaccine it had yellow, watery diarrhoea and was not eating. On examination it had temperature 39.1. Heart rate was slightly raised but unknown what it was, though this is normal for the dog when it gets stressed. It has its third eyelid across and some conjunctivitis (which is historical) No pain on abdomen palpation. Placed on Maxitrol and Metronidazole. Seen on 30 Jan 2017, brighter but still picky with it's food. Further weight loss but around 25.4 to 25.6 kg. Continued on original treatment Seen on 2 Feb. Diarrhoea is resolving, appetite is up and down, eyes are improving. Bloods show Mono 1 (0-0.5) Neut 23.2(3-10) Leuc 26.2(6-12) Eos 1.1(0-0.06) ALB 25(26-40) ALKP 144(13-83) GGT 72 (5-14) Phos 1.67(0.61-1.61) PCV 31.5% (ref range unknown) They placed on Nisamox and metronidazole and Paracetamol. Seen on 3 Feb 2017 Temperature 38.3 Vomited on 2 Feb 2017. No change to treatment. 4 Feb 2017 Bloods taken for pancreatic profile (results unknown) Has Injection site thickening and a injection site mass develop. Fine needle aspirate has been taken and sent away. Seen on 6 Feb no change,they plan to do an ultrasound and Xray. Await further information, open case Follow up 7 Feb 2017 - Canine Pancreatitis Lipase 1710 (<200), WBC 38.1 (<17.6) Neutrophilia and Monocytosis (no results supplied), Haematocrit 36 (<38), SDMA 26 (<14), ALKP 164 (<130), Bilirubin 7.7 (<4.2). Purulent haemorrhagic material was aspirated from the injection site lump. Await further information. Follow up 7 Feb 2017 - Canine Pancreatitis Lipase 1710 (<200), WBC 38.1 (<17.6) Neutrophilia and Monocytosis (no results supplied), Haematocrit 36 (<38), SDMA 26 (<14), ALKP 164 (<130), Bilirubin 7.7 (<4.2). Purulent haemorrhagic material was aspirated from the injection site lump. Await further information Follow up 14 Feb 2017 - Results for mass on neck show chronic pyogranulomatous process with panniculitis. Ultrasound and radiographs showed a liver mass possibly involving the pancreas and also chest masses. Further investigation was declined by the owner and the dog was euthanased on 10 Feb 2017 due to continuing deterioration. No post mortem is being carried out.	Old English Sheepdog	25.6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml (26/01/2017-26/01/2017)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-00642	United Kingdom	Animal	Canine/dog	8 Week(s)	15/12/2016	04/04/2017	4	4	0	18/12/2016	Yes; R= Not Known	Lack of efficacy (parvovirus),Cough	Not Known	Suspected Adverse Reaction & Suspected Lack of Expected Efficacy to parvo On 15 Dec 2016, 4 puppies vaccinated with Nobivac DHP and Nobivac L4. On 19 Dec 2016, puppies developed coughing and diarrhoea, taken to another practice and two were treated with unspecified medication and sent home, two puppies were hospitalised. One of the hospitalised puppies was sent home and has since recovered (unknown date). One of the puppies (unknown which) was tested for Parvovirus and was positive and another was tested for Parainfluenza due to cough but was negative. All of the puppies apart from one have made a full recovery. It is unknown what the outcome of one of the hospitalised puppies. Await further information. Follow up 4 Apr 2017 - No further information received. Case closed.	Labrador Retriever	6	Nobivac DHP - 1,N/A/N/A ,10.1 ml (15/12/2016-15/12/2016)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (15/12/2016-15/12/2016)-BR> 	O1 - Inconclusive	Timing/diarrhoea consistent with possible product involvement. This vaccine provides no immunity to Parvovirus.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-00647	United Kingdom	Animal	Canine/dog	9 Week(s)	24/01/2017	07/02/2017	1	1	0	06/02/2017	Yes; R= Not Known	Tachycardia,Lethargy (see also Central nervous system depression in 'Neurological'),Collapse (see also 'Cardio-vascular' and 'Systemic disorders')	Not Known	Suspected Adverse Reaction On 24 Jan 2017, dog vaccinated with Nobivac DHP and Nobivac L4 at a different veterinary practice. On 6 Feb 2017, dog vaccinated with second Nobivac DHP and fit and well at time of vaccination and no other products given. The puppy was vaccinated at 4.30pm and owner phoned out of hours at 9pm, reported collapse and tachycardia. On arrival 10 minutes later was lethargic but not collapsed, temperature 102 degrees Fahrenheit, heart rate 180 bpm and reduced to 140 bpm after 5 minutes. Given an antibiotic and sent home. No further information expected. Follow up 8 Feb 2017 - reported to have fully recovered the following day. Nothing further expected.	Whippet	4.5	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (06/02/2017-06/02/2017)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (24/01/2017-24/01/2017)-BR> 	O1 - Inconclusive	Time association is not close (2 weeks) at Nobivac DHP was given alone on this occasion (Nobivac L4 was given 2 weeks before). More likely to be related to DHP
NOBIVAC L4	GBR-MERCKMSD-2017-UK-00669	United Kingdom	Animal	Canine/dog	2 Year(s)	07/02/2017	03/03/2017	1	1	0	07/02/2017	Yes; R= No	Behavioural disorder NOS,Inappropriate urination,Hypersalivation,Vomiting, Jaw disorder,Inappetence,Lethargy (see also Central nervous system depression in 'Neurological'),Malaise,Off colour,Pyrexia,Intestinal perforation,Joint pain,Tense abdomen,Hdng,Gastrointestinal foreign body NOS	Other	Suspected Adverse Reaction. On 7 Feb 2017, dog vaccinated with Nobivac L4 (not given at room temperature - extra label use) and Nobivac KC, fit and well at time of vaccination and no other products given. Approximately 6 hours later the dog developed hypersalivation, vomited, started acting scared and subdued. On clinical examination, was subdued and urinated in the consult room, pyrex (39.6C) and was given Cerenia and intravenous Chlorphenamine and sent home. On 8 Feb 2017, owner reports still lethargic but no salivation but has become inappetent. No further information expected. Follow up 9 Feb 2017 - The dog was kept overnight on intra venous fluids, not eating and very quiet, hiding in corner, drooling, painful on abdomen palpation and unable to open mouth, vocalising when attempted to do so. Bloods are being carried out. Open case Follow up 15 Feb 2017 - dog reported to have improved after the fluids and then went downhill 24-36 hours. Further investigation and ultrasound of abdomen, linear foreign body found and 2 small pieces of plastic and connecting piece of cloth, surgery was performed and perforated gut. Full blood and titre are being carried out. Follow up 3 Mar 2017 - Practice reported that they are no longer waiting for bloods and titre etc due to the foreign body being found, case closed.	Jack Russell Terrier	8.8	Nobivac KC - 4,N/A/N/A ,10.0,4 ml 1 Animal (07/02/2017-07/02/2017)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (07/02/2017-07/02/2017)-BR> 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-00681	United Kingdom	Animal	Canine/dog	8 Week(s)	23/01/2017	08/02/2017	1	1	0	24/01/2017	Yes; R= Yes; R= Not Known	Vocalisation,Low platelet count,Tachycardia,Hypercalcaemia,Reduce globulins,Lethargy (see also Central nervous system depression in 'Neurological'),Abnormal test result,Hyperglycaemia,Increased respiratory rate	Not Known	Suspected adverse reaction Vaccinated on 23 Jan 2017 with Nobivac DHP, L4 and KC. Was seen on 25 Jan at another practice, owner informed them it had been lethargic for 24 hours post vaccination, presented with lethargy and screaming. Heart rate 160, respiratory rate 60. Normal on examination. They took bloods which showed Creat 24 (14-155) Glu 0.0 (0.3-4.4) Inrat 31 (35-50) HGB 10.6 (12-17) Cal 1.47 (1.12-1.40) Yetergic was given and it was placed on intravenous fluids. The dog fully recovered date unknown. No more information expected	Other Canine/dog	8.9	Nobivac DHP - 1,N/A/N/A ,10.1 ml (23/01/2017-23/01/2017)-BR> Nobivac KC - 1,N/A/N/A ,24.1 Dose (23/01/2017-23/01/2017)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml (23/01/2017-23/01/2017)-BR> 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-00684	United Kingdom	Animal	Canine/dog	15 Month(s)	03/01/2017	08/02/2017	1	1	0	03/02/2017	Yes; R= Yes; R= Not Known	Pale mucous membrane,Neutrophilia,Inappetence,Lethargy (see also Central nervous system depression in 'Neurological'),Malaise,Pyrexia,Dry mucous membrane,Abnormal test result,Glycosuria,Proteinuria,Decreased haemoglobin,Decreased packed cell volume (PCV),Monocytosis,Thrombocytopenia,Low platelet count,Leucocytosis,Constipation	Not Known	Suspected Adverse Reaction On 3 Jan 2017, dog vaccinated with Nobivac DHP, Nobivac L4 and Nobivac KC, fit and well and no other products given. On 3 Feb 2017, dog seemed subdued and since 4 Feb 2017 has been inappetent and not drinking. On 6 Feb 2017, presented to veterinary practice and on examination was quiet, pale mucous membranes and reported to have not passed faeces. Blood smear showed autoagglutination and an ultrasound was performed and no abnormalities detected. Urine sample was taken and showed a trace of glucose and proteinuria. On 7 Feb 2017, blood tests: WBC 38.5 (6-17), Neutrophils 21.2 (3.5-12), Monocytes 1.6 (0.30-1.5), RBC 2.19 (5-8.5), Haemoglobin 11.6 (12-18), HCT 17.5 (37-55), MCV 80.2 (60-80), MCHC 65.9 (30-36.5), RDW 86.9 (35-65), platelets 142 (200-500) and MPV 10.6 (5.5-10.5). Reported dog doing better but developed polyuria and polydipsia. On 8 Feb 2017, owner reports still lethargic, polyuria and polydipsia and on clinical examination had pale mucous membranes that were tacky. A manual PCV was performed: 23% (35-57) and agglutination seen on manual slide. Blood tests: WBC 31.7 (6-17), granulocytes 25.5 (3.5-12), Monocytes 2.5 (0.30-1.5), RBC 0.89 (5-8.5), Haemoglobin 8.3 (37-55), MCV 93.3 (60-80), RDW 161.5 (35-65), platelets 169 (200-500), MPV 10.9 (5.5-10.5). Reported the dog is recovering at home, no further information expected.	Shih Tzu	9.5	Nobivac DHP - 1,N/A/N/A ,10.1 ml 1 Animal (03/01/2017-03/01/2017)-BR> Nobivac KC - 4,N/A/N/A ,10.0,4 ml 1 Animal (03/01/2017-03/01/2017)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10.1 ml 1 Animal (03/01/2017-03/01/2017)-BR> 	O1 - Inconclusive	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2017-UK-01116	United Kingdom	Animal	Canine/dog	9 Year(s)	01/12/2016	03/03/2017	1	1	1	17/12/2016	Yes R No	Diarrhoea,Vomiting,Abdominal pain,Non-regenerative anaemia,Anaemia NOS,Mucous stool,Weight loss,Pyrexia,lethargy (see also Central nervous system depression in 'Neurological'),Decreased appetite,Death by euthanasia,Abnormal test result,Elevated total bilirubin,Decreased haemoglobin,Elevated creatinine (Kc),Decreased cholesterol (total),Abnormal posture	Other	Suspected Adverse Reaction On 1 Dec 2016, dog vaccinated with Nobivac DHP and Nobivac L4 (not given at room temperature - extra label use) and no other medications given at the same time. On 21 Dec 2016, reduced appetite (since 18 Dec 2016), bit lethargic, temperature 39.7 Celsius and the owners were unsure if the dog vomited but given a Cerenia. On 22 Dec 2016, re-examined and was still pyrexic (39.3 Celsius), eosinophils 0.06 (0.07-1.49). On 23 Dec 2016, dog still lethargic, pyrexic and a reduced appetite. Admitted for radiographs and an ultrasound but no abnormalities detected. Given Vetergesic, Cerenia, Ranitidine and Intravenous fluid therapy. On 24 Dec 2016, dog is still in hospital, not eaten and started Metronidazole, canine pancreatic lipase normal and showing a praline posture, mucoid diarrhoea, given Pardale as painful abdomen. On 25 Dec 2016, no improvement in demeanour and temperature was normal. A PCV was performed and showed 30% (35-57) and dog was moderately anaemic and was discharged that day with Synulox, Cerenia, Pardale and Metronidazole. On 26 Dec 2016, started eating again. On 28 Dec 2016, dog slightly improving and temperature 39 C and continued medication. On 31 Dec 2016, started to deteriorate as was lethargic and temperature 39.5 C. Blood tests repeated: PCV 22.2% (35-55), HbC 4.72 (5.5-8.5), Haemoglobin 11.7 (12-18), cholesterol 2.28 (2.84-8.26) and was referred to a referral practice for joint tapping (unknown exact details). On 5 Jan 2017, slightly brighter in self and some weight loss (5.8kg). On 19 Jan 2017, dog still unwell and temperature within normal limits. On 17 Feb 2017, PCV 7% (35-57), further weight loss (13.7kg), lethargic and pathologist diagnosed immune-mediated, non-regenerative anaemia. The dog started a high dose Prednisolone and Cyclosporin, off food and not improving. On 27 Feb 2017, the dog was euthanased. No further information expected. The owner has another dog that was vaccinated with Nobivac DHP and Nobivac L4 on the same day and had unexplained anorexia and lethargy 17d post vaccination. See linked case: 2017-UK-01117	Whippet	18	Nobivac DHP - 1,N/A/N/A,,10.1 ml 1 Animal (01/12/2016-01/12/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (01/12/2016-01/12/2016) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01132	United Kingdom	Animal	Canine/dog	1.3 Year(s)	28/02/2017	26/04/2017	1	1	0	01/03/2017	Yes R Not Known	Low platelet count,Eosinophilia,Leucocytosis,Lymphocytosis,Neutrophilia,Tachycardia,Non-regenerative anaemia,Inappetence,lethargy (see also Central nervous system depression in 'Neurological'),Decreased packed cell volume (PCV),Basophilia,Anaemia NOS,pale mucous membrane	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 28 Feb 2017. Presented on 3 Mar 2017 and owner reported that since 1 Mar 2017 the dog has been lethargic and inappetent. On examination the dog was flat, tachycardic, pale mucous membranes and lethargic. The dog was admitted and placed on intravenous fluids. Bloods were taken, Hematocrit 32 (37-56), Red Blood Cells 4.49 (5.5-8.5), White Blood Cells 15 (5-16-9), Platelets 119 (175-500), Lymphocytes 3.3 (0.5-0.7), Eosinophils 8.08 (0.1-1.49), Basophils 0.11 (0-0.1). Coombs test is being carried out. Vet suspects IMHA. Open case. Follow up 26 Apr 2017 - Seen on 10 Mar 2017 Mild-moderate non-regenerative anaemia HCT 0.356. Neutrophilia with left shift present and Dohe bodies seen. Coombs test NEGATIVE. Slide agglutination NEGATIVE. PCV 44% (35-57%), Red Blood Cells 5.5 (5.5-8.5) Dexadrenon given. Nothing further expected.	Miniature Schnauzer	8.6	Nobivac DHP - 1,N/A/N/A,,10.1 ml 1 Animal (28/02/2017-28/02/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (28/02/2017-28/02/2017) 	O - Unclassifiable/unassessable	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01139	United Kingdom	Animal	Canine/dog	11 Week(s)	17/02/2017	03/03/2017	1	1	0	17/02/2017	Yes R Yes	Diarrhoea,Corneal oedema,Iritis,Closed eyelid,Sore eye	No Data	Suspected Adverse Reaction. On 17 Feb 2017, dog vaccinated with Nobivac DHP and Nobivac L4. On 1 Mar 2017, developed diarrhoea since vaccination but has now developed a sore right eye and was closed on examination and given Isalath. On 3 Mar 2017, presented with a right eye corneal oedema, uveitis and fluoro negative. Given Metacam, Pred forte drops, Acular and Nisamos and discharged. No further information expected.	Border Collie	6.5	Nobivac DHP - 1,N/A/N/A,,10.1 ml 1 Animal (17/02/2017-17/02/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (17/02/2017-17/02/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01145	United Kingdom	Animal	Canine/dog	7 Month(s)	05/09/2016	03/03/2017	1	1	0	11/01/2017	Yes R Not Known	Lack of efficacy (parvovirus),Injection site lump	Not Known	Suspected Adverse Reaction & Suspected Lack of Expected Efficacy On 5 Sep 2016, dog vaccinated with second dose of Nobivac DHP and Nobivac L4. On 11 Jan 2017, dog was quiet on a walk, subdued and vomited in the day. On examination had abdominal discomfort, drooling and slightly dehydrated, given intravenous fluid therapy, Ranitidine, Metronidazole and Cerenia. On 12 Jan 2017, dog has produced haemorrhagic diarrhoea and refused food. On the clinical examination, was quiet, depressed and continued supportive treatment. On 13 Jan 2017, eaten overnight and the diarrhoea had stopped and given Nisamos, Omeprazole and Furibio. On 17 Jan 2017, improving and faces normal and a lump observed at injection site. On 7 Feb 2017, failure to gain weight and faces now variable and no abnormalities detected on examination. Dog had a reaction after first vaccination involving blood in faeces. See linked case: 2017-UK-01143	Hungarian Short-haired Pointing Dog (Vizsla)	Not Known	Nobivac DHP - 1,N/A/N/A,,10.1 ml 1 Animal (05/09/2016-05/09/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (05/09/2016-05/09/2016) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01147	United Kingdom	Animal	Canine/dog	12 Year(s)	11/04/2016	06/03/2017	1	1	1	01/06/2016	Not Known	Lethargy (see also Central nervous system depression in 'Neurological'),Weight loss,Immune mediated haemolytic anaemia,Inappetence,Death by euthanasia	Not Known	Suspected Adverse Reaction On 11 Apr 2016, dog vaccinated with second dose of Nobivac L4. In Jun 2016, dog became lethargic, inappetent and weight loss. On 20 Aug 2016, dog was presented and was unwell (unknown details) but tests were performed and treatment for IMHA was given these are all the details that are known). On 9 Sep 2016, the dog was euthanased (not details given). No further information expected.	Crossbred	14	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (11/04/2016-11/04/2016) 	O - Unclassifiable/unassessable	Product involvement inconclusive.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01148	United Kingdom	Animal	Canine/dog	7.58 Year(s)	01/03/2017	10/03/2017	1	1	0	05/03/2017	Yes R Not Known	Pyrexia,Lethargy (see also Central nervous system depression in 'Neurological'),Inappetence,Decreased appetite,Drinking a lot,Injection site warmth,Injection site pain,Injection site swelling,Injection site abscess,Abnormal test result,Vomiting	Not Known	Suspected Adverse Reaction. On 1 Mar 2017, dog vaccinated with Nobivac DHP and Nobivac L4. On the same day as vaccine developed an injection site lump, lethargic and off food. On 5 Mar 2017, presented to emergency practice and on clinical examination was lethargic, temperature 39.8 degrees Celsius and large swelling at injection site. The injection site was painful and vet aspirated but nothing was drawn out and swabbed sent for a culture. Blood tests performed but no abnormalities detected and was given Metacam and Synulox injection. On 6 Mar 2017, presented to normal practice and had been eating but did vomit that morning and temperature 39.6 degrees Celsius, started a course of antibiotics. No further information expected. Follow up 10 Mar 2017 - seen on 8 Mar 2017, lump is the same size and is looking more red and warm to touch. Reduced appetite, drinking more than normal. 10 Mar 2017 obvious abscess, fine needle aspiration taken. Swab results show growth of Strepococcus sp. Nothing further expected.	English Cocker Spaniel	10.5	Nobivac DHP - 1,N/A/N/A,,10.1 ml 1 Animal (01/03/2017-01/03/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (01/03/2017-01/03/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01160	United Kingdom	Animal	Canine/dog	1.2 Year(s)	30/03/2016	06/03/2017	1	1	0	02/05/2016	Not Known R Not Known R Not Known R Not Known	Meningitis	Not Known	Suspected adverse reaction Vaccinated on 30 March 2016 with a second Nobivac DHP and L4 and KC, given Advocate to go home with. 27 April 2017 Vaccinated with Nobivac Parvo C (Nobivac L4 was not given but advised) Admitted on 2 May 2016 with Meningitis. Cerebrospinal fluid was taken for diagnosis of this. They treated with Gabapentin and steroids. 17 May 2016 returned to normal and steroids were reduced. Fully weaned off steroids in July 2016. No more information expected	Bullmastiff	42	Nobivac DHP - 1,N/A/N/A,,10.1 ml (30/03/2016-30/03/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml (30/03/2016-30/03/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml (30/03/2016-30/03/2016) Nobivac Parvo C - 1,N/A/N/A,,10.1 ml (27/04/2016-27/04/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-01177	United Kingdom	Animal	Canine/dog	8 Month(s)	24/07/2016	06/05/2017	1	1	0	28/12/2016	Yes R Yes R Not Known	Lack of efficacy (parvovirus)	Not Known	Suspected Lack of Expected Efficacy On 26 Jun 2016, dog vaccinated with first Nobivac DHP and Nobivac L4 and then had second dose of Nobivac DHP on 01 Jul 2016. On 24 Jul 2016, dog vaccinated with second dose of Nobivac L4 and Nobivac KC. On 28 Dec 2016, dog stopped eating and on 31 Dec 2016, developed vomiting and was presented to emergency practice on 1 Jan 2017 with diarrhoea, vomiting and depressed. The dog admitted for intravenous fluid therapy, unspecified supportive treatment and diagnostics, on blood tests states leucopenia on blood smear and no abnormalities detected on radiographs. On 2 Jan 2017, dog was Parvovirus snap test positive and faeces have been sent for a PCR and salmonella faecal parasites. On 3 Jan 2017, improving and was discharged on 7 Jan 2017. Outcome unknown and await further information. Follow up 13 Mar 2017 - Faecal PCR was positive for parvovirus, Salmonella and microscopy was negative. Nothing further expected. PCR up 8 May 2017 - No further information received, case closed.	German Shepherd Dog	27	Nobivac DHP - 1,N/A/N/A,,10.1 ml 1 Animal (01/07/2016-10/07/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (24/07/2016-24/07/2016) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10.1 ml 1 Animal (24/07/2016-24/07/2016) 	N - Unlikely	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2017-UK-02416	United Kingdom	Animal	Canine/dog	11 Year(s)	03/03/2017	08/05/2017	1	1	1	25/03/2017	Yes; R- Not Known	Death by euthanasia,lethargy (see also Central nervous system depression in 'Neurological'),Off colour,Lymphadenopathy,Lymphoma	Not Known	Suspected Adverse Reaction On 23 Jan 2017, dog was presented as was shivering, weak and wobbly. No abnormalities were found and no treatment given. Unknown if resolved. On 3 Feb 2017, dog started restart vaccination of Nobivac DHPPi and Nobivac L4. On 3 Mar 2017, vaccinated with second dose of Nobivac L4. On 25 Mar 2017, dog was presented to emergency practice as was lethargic and off colour. On examination had generalised lymphadenopathy. On 27 Mar 2017, still lethargic and generalised lymph node enlargement. Fine needle aspirates taken and results state consistent with lymphoma. Unknown if any treatment was given and the owners moved away and started using another practice. The owner then called the previous practice to report that on 24 Apr 2017, the dog was euthanased due to the deterioration of his clinical condition. Unknown what treatment was given and no further information expected.	English Springer Spaniel	22.75	Nobivac DHPPi, Lyophilisate for Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml 1 Animal (03/02/2017-03/02/2017)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml 1 Animal (03/03/2017-03/03/2017)-BR- 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-02460	United Kingdom	Animal	Canine/dog	2.9 Year(s)	06/05/2017	22/05/2017	1	1	1	07/05/2017	Yes; R- Yes; R- Not Known	Circling - neurological disorder (see also 'Behavioural disorders'),Unable to stand,Ataxia,Recumbency,Death by euthanasia,Head tilt - neurological disorder,Horizontal nystagmus,Not eating,Dilated pupils,Walking difficulty,Abnormal pupal light reflex	Not Known	Suspected Adverse Reaction Vaccinated on 6 May 2017 with Nobivac DHP, Nobivac L4 and Nobivac KC. Presented on 8 May 2017 with head tilt and circling. Started on 7 May 2017. Now struggling to stand and walk. On examination head tilt and circling and falling to the left with horizontal nystagmus, dilated pupils,negative pupillary light reflex. Ear exam normal, struggling to get out of ataxia, no known trauma. Cerenia was given and sent home. 9 May 2017 the dog was reported to be non ambulatory and sent for referral, await report. Bfollow up 22 May 2017 - the dog was referred to a neurologist. Inflammatory disease was considered most likely differential diagnosis but other aetiologies such as vascular disease could not be excluded on examination alone. Further investigations were discussed and included blood tests, MRI of the brain and cerebrospinal fluid analysis. The owners were uncertain on how to proceed and opted for euthanasia on 10 May 2017. Private cremation was carried out. Nothing further expected.	Crossbred	5.5	Nobivac DHP - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (06/05/2017-06/05/2017)-BR- Nobivac KC - 4,N/A/N/A,,10,0.4 ml Unknown 1 Animal (06/05/2017-06/05/2017)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (06/05/2017-06/05/2017)-BR- 	O1 - Inconclusive	NCA agrees with the MAH assessment. Await information.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-02486	United Kingdom	Animal	Canine/dog	8.8 Year(s)	02/05/2017	10/05/2017	1	1	0	08/05/2017	Yes; R- Not Known	Injection site abscess,Polydipsia,skin warmth,Off colour,Pyrexia,lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 2 May 2017. 8 May 2017 presented as off colour, lethargic and felt hot around nose. Temperature 40.1 Celsius and given Rimadyl and Metacam. 9 May 2017 Temperature now 40.2 C, drinking more with a 12cm lump at vaccine site, felt hot to touch and full of pus. The lump was lanced, flushed and swabbed. Results sent away concluded consistent with moderate septic and purulent inflammation with phagocytosed bacteria consistent with bacterial infection, which may have been introduced at the time of the injection. No bacteria was isolated. Nothing further expected.	Crossbred	38.3	Nobivac DHP - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (02/05/2017-02/05/2017)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (02/05/2017-02/05/2017)-BR- 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-02529	United Kingdom	Animal	Canine/dog	Not Known	03/12/2015	19/05/2017	1	1	0	14/12/2016	Yes; R- Not Known	Leucocytosis,Enlarged lymph nodes (generalised),Lymphadenopathy,Loose stool,Tarry or black stool (see also haemorrhagic diarrhoea),Not drinking,Hypocalcaemic condition,Meningitis,lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Not eating,Dry mucous membrane,Abnormal test result,Tense abdomen,Musculoskeletal pain,Elevated SAP,Abnormal ultrasound finding,Abnormal radiograph finding,skin warmth,Neutrophilia	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 (unknown details). On 15 Dec 2016, dog was presented with unknown clinical signs and eventually referred to a referral practice for further information and diagnosed with possible meningitis. Await further information. Follow up 19 May 2017 - History received, vaccinated with primary Nobivac L4 and Nobivac DHP on 5 Nov 2016. Second vaccine with Nobivac L4 given on 3 Dec 2016. 15 Dec 2016 lethargic since previous day, feels hot to touch, passing dark stools. Not eaten or drunk since previous morning. Teh dog was admitted and placed on intra venous fluids. Temperature 40.3 Celsius. Neutrophils 13.25, Monocytes 2.87, White Blood Cells 17, ALP 175-no ranges supplied for any bloods, but reported to be high. Calcium 2.08-no range but reported to be low. The dog was started on Rantidine, Zinacef and an ultrasound was carried out. No abnormalities on the ultrasound. Owner reported that the dog attacked the Christmas tree and possible ate 6-8 baubles 1-2 weeks ago. 16 Dec 2016 Rantidine, Cephacare, Protexin and Metacam given. Eating well and drinking. Temperature 39.8 Celsius. 17 Dec 2016 Paracetamol was given, Temperature 40 Celsius. Mucous membranes slightly tachy. Ultrasound showed mild mesenteric lymphadenopathy. Continued IV fluids and oral Metronidazole. Temperature unknown but reported to be within normal limits. The dog was discharged on 18 Dec 2016. 20 Dec 2016 liquid faeces at home, quiet in self. On examination temperature 40 Celsius. Not eating. Bloods were taken and high neutrophils (unknown result or range). Vocalising when abdomen palpated. Radiographs show small gas filled pockets in area of ventro caudal abdomen which doesn't appear to be colonic. Ultrasound showed fluid filled section of bowel and some reverse peristalsis. Lymph node enlargement. The dog was placed on intra venous fluids again and a exploratory laparotomy was performed. No foreign body found, mesenteric lymphadenopathy with moderate inflammation. Biopsies were taken and abdominal lavage was carried out. 21 Dec 2016 soft faeces passed and pain on ventro flexion of neck. The dog was referred. Treatment with Zinacef, Buprecafe, Peralgan and Metrobactin were given. At the referral Practice, several tests were carried out and no cause has been identified. The dog was discharged on 24 Dec 2016 and started on Cephacare, Metrobactin, Omeprazole, Cytotec and Pardale. Results from biopsies taken from surgery showed mild/moderate lymphoplasmacytic enteritis,with no obvious cause. The dog was then not seen at the reporting Practice until 18 May 2017 when the dog was seen for otitis	English Springer Spaniel	Not Known	Nobivac DHP - 1,N/A/N/A,,10,1 ml 1 Animal (05/11/2015-01/01/2016)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (05/11/2015-01/01/2016)-BR- 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-02548	United Kingdom	Animal	Canine/dog	10 Week(s)	01/05/2017	09/06/2017	1	1	1	01/05/2017	Yes; R- Not Known	Elevated temperature,Abnormal test result,Hypoalbuminaemia,Limping, Decreased haemoglobin,Decreased packed cell volume (PCV),Monocytosis,Anaemia (NCS),Leucocytosis,Neutrophilia,Joint swelling,lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Suspected adverse reaction Vaccinated on 1 May 2017 Nobivac DHPPi and L4. Once the puppy went home it was lethargic, also limping. (unknown which limb). 2 May puppy is quiet and lame on Right hind, is eating and drinking. When examined it had a temperature of 102.5, with a sore swollen right stiffl. decided to X ray. 3 May X rayed and placed on intravenous fluids, given Colvasone and Paralidone. It has a temperature of 104.5, is holding up the stiffl on the left hind and the right hind is still swollen. Joints don't feel hot and don't seem painful. Results of X ray are unknown, they suspect IMPA (immune mediated polyarthritis) However this has not been diagnosed. Bloods taken show RBC 4.64 (5.65-8.87) Haematocrit 0.257 (0.373-0.617) Haemoglobin 88 (131-205) MCV 55.4(61.6-73.5) MCH 19.0(21.2-25.9) WBC 26.1(85.05-16.78) Neutrophils 18.5(7.02-95-11.64) Monocytes 2.85(0.10-1.12) Creat 18 (27-108) Urea 1.5(2.5-10.4) TP 35(48-72) Albumin 20(21-36) Globulin 15 (23-38) kept over night on fluids and Noroclav and buprecafe. 4 May eating and stiffls are still swollen, but no longer lame. Temperature normal. Sent home. 5 May on pred and reducing painkillers. 5 May temperature 102.4, no discomfort on joint being manipulated. is playing. 8 May much improved and playing, joint still swollen but improving. 12 May doing very well, still on Pred and Rantidine. No more information expected. Follow up 9 Jun 2017 - 2 further puppies have reacted - see linked cases 2017-UK-03128 and 2017-UK-03129. Both experienced lameness after the vaccine. Nothing further expected.	Crossbred	6.5	Nobivac DHPPi, Lyophilisate for Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (01/05/2017-01/05/2017)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml Unknown 1 Animal (01/05/2017-01/05/2017)-BR- 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-02578	United Kingdom	Animal	Canine/dog	10 Week(s)	10/05/2017	06/06/2017	1	1	1	15/05/2017	Yes; R- Not Known	Death,Cardiac disorder NOS	Not Known	Suspected Adverse Reaction On 10 May 2017, puppy vaccinated with Nobivac DHPPi and Nobivac L4 and nothing abnormal noted on clinical examination. On 15 May 2017, puppy left in the morning and had been active and bright. Later the owner found dead curled up on the carpet. An in-house post mortem was performed and found haemorrhage in the pericardial area, await further information. Follow up 6 Jun 2017 - Histopathology carried out showed a dilated right ventricle and atrium. Left ventricle is thickened with an increase in inconsistency. Peracute heart failure is possible, but convincing evidence of an underlying congenital abnormality was not evident. The Vet does not feel it is vaccine related. Nothing further expected.	Yorkshire Terrier	2	Nobivac DHPPi, Lyophilisate for Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml 1 Animal (10/05/2017-10/05/2017)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml 1 Animal (10/05/2017-10/05/2017)-BR- 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-02590	United Kingdom	Animal	Canine/dog	16 Month(s)	13/05/2017	30/08/2017	1	1	1	14/05/2017	Yes; R- No	Vomiting,Cough,Death,Regurgitation,Pneumothorax,Abnormal necropsy finding	Other	Suspected Adverse Reaction On 13 May 2017, dog vaccinated with Nobivac DHP and Nobivac L4 (not given at room temperature - extra label use), fit and well at time of vaccination. Regurgitated water in previous week and raised the bowl and was no longer sick. Same day, dog developed flatulence. On 14 May 2017, the dog vomited and started having a loud honking cough then the dog died (after a loud honking sigh). Await further information from a possible post mortem. Follow up 2 Jun 2017 - Post mortem findings were strongly supportive of a rupture of prior pulmonary bullae with subsequent pneumothorax. Tension pneumothorax could have caused sudden death via hypoxaemia and cardiovascular collapse. Await further information from pending histology. Follow up 30 Aug 2017 - No further information received - case closed.	Jack Russell Terrier	5.7	Nobivac DHP - 1,N/A/N/A,,10,1 ml 1 Animal (13/05/2017-13/05/2017)-BR- Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A,,10,1 ml 1 Animal (13/05/2017-13/05/2017)-BR- 	N - Unlikely	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2017-UK-02999	United Kingdom	Animal	Canine/dog	Not Known	29/05/2014	31/05/2017	1	1	1	29/05/2014	Yes; R-> Not Known	Vestibular disorder NOS,Cataract,Neurological signs NOS,Intestinal disorder NOS,Death,Hernia NOS,Death by euthanasia	Not Known	Suspected Adverse Reaction On 29 May 2014, dog vaccinated with Nobivac DHPPI and Nobivac L4 (unknown exact details). Reported within 24 hours developed mild vestibular and neurological-like signs (unknown exact details). The dog was not presented to veterinary practice. On an unknown date resolved. The reporter states that the vaccination of the mother caused abnormalities in the following litters of puppies born: The dog had her second litter on 11 Apr 2015 of 7 puppies. One died within 24 hours and second puppy was euthanased; a post mortem was performed on this puppy and found Intestines were not joined together (no exact details). Another puppy on 24 Jun 2015 was found to have an open fontanelle (see linked case: 2017-UK-03001). On 8 May 2016, the bitch had her third litter of 3 puppies and within this litter one puppy prior to vaccination was found to have bilateral cataracts and stated to be a foetal development rather than hereditary. Reported also that a couple of the puppies (unknown numbers) had umbilical hernia and one had an inguinal hernia. No further information expected. The owners other dog was also vaccinated with Nobivac DHPPI and Nobivac L4 and developed the same clinical signs but more severely. See linked case: 2014-UK-02190.	Cavalier King Charles Spaniel	Not Known	Nobivac DHPPI, Lyophilisate for Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (29/05/2014-29/05/2014) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (29/05/2014-29/05/2014) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03001	United Kingdom	Animal	Canine/dog	2 Year(s)	15/09/2016	31/05/2017	1	1	0	01/01/2017	Not Known	Vocalisation,Chitic externa,Hydrocephalus,Bulging eye,Abnormal menace reflex test,Eyesight trouble,Strabismus,Scratching	Not Known	Suspected Adverse Reaction This puppy was born from litter that had a few issues from a vaccinated mother who received Nobivac L4 and Nobivac DHPPI. This puppy was found to have an open fontanelle. Other puppy from litter – one died within 24 hours and another was euthanased due to an intestinal abnormality. See linked case: 2017-UK-02999 On 15 Sep 2016, dog vaccinated with Nobivac L4 (unknown if given with another vaccine) and had a second dose on 14 Oct 2016. In Jan 2017, dog developed 'phantom scratching' that was directed towards neck/ear region. This was said to usually occur after getting up from rest and occasionally yelps immediately prior to an episode. On 19 Apr 2017, presented to referral hospital and was suggested had possible poor eyesight and doesn't notice objects straight away. On examination had a domed head, bulging eyes and lateral strabismus as well as an overhanging jaw. The neurological examination showed a reduced menace response. Diagnosis was Malaciae crinis externa and mild hydrocephalus and was given Surolam and Suroseol for ear cleaning. No further information expected.	Cavalier King Charles Spaniel	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal, vaccinated twice, 15/09 and 14/10 (15/09/2016-14/10/2016) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03010	United Kingdom	Animal	Canine/dog	13 Month(s)	29/05/2014	31/05/2017	1	1	0	05/05/2016	Yes; R-> Not Known	Vocalisation,Pain NOS,Parosmia,Brain disorder NOS,Malformation NOS	Not Known	Suspected Adverse Reaction On 11 Apr 2015, dog was from a bitch that was vaccinated with Nobivac L4 (unknown if given with another vaccine) (see linked case: 2017-UK-02999). It is unknown if the dog was vaccinated further. Developed sudden screaming and unresponsive pain. On 5 May 2016, referred and appeared anaesthetic and screaming when examined. Diagnosed with caudal occipital malfunction syndrome without syringohydromyelia. No further information expected. The dogs litter mates later developed allergies (see linked case: 2017-UK-03004) and another developed a malformed knee (see linked case: 2017-UK-03009).	Cavalier King Charles Spaniel	Not Known	Nobivac DHPPI, Lyophilisate for Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (29/05/2014-29/05/2014) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Unknown 1 Animal (29/05/2014-29/05/2014) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03011	United Kingdom	Animal	Canine/dog	9 Year(s)	27/04/2017	05/06/2017	1	1	1	29/04/2017	Not Known	Dry mucous membrane,Head tremor,Death,Diarrhoea,Distension of abdomen,Enlarged lymph nodes (generalised)	Not Known	Suspected adverse reaction Vaccinated on 27 April 2017 with a first Nobivac L4. Then 2 days later the owner reported it had a mild head tremor for a few hours, no nystagmus reported - Nothing else was noted. Then on 21 May 2017 the owner woke at 3 am as the dog had passed diarrhoea with no blood. Was seen out of hours and on examination it had tachy gums. Had prominent lymph nodes, also a barrel shaped enlarged abdomen. The dog died before they could euthanase it. No post mortem was performed. No more information expected.	West Highland White Terrier	11.7	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Unknown 1 Animal (27/04/2017-27/04/2017) 	O - Unclassifiable/unassessable	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03012	United Kingdom	Animal	Canine/dog	2 Year(s)	23/03/2016	31/05/2017	1	1	0	02/04/2016	Not Known	Ataxia,Collapse (see also 'Cardiovascular' and 'Systemic disorders'),Twitching,Panting,Malaise,Rigidity of limbs,Seizure NOS,Shaking,Elevated bile acids,Star-gazing,Discomfort NOS,Low platelet count,Vomiting,Stiffness NOS	Not Known	Suspected Adverse Reaction The dog developed ongoing diarrhoea episodes since 20 Jul 2014. On 23 Mar 2016, dog was vaccinated with assumed Nobivac L4 (however the booster is unspecified), on 2 Apr 2016, developed discomfort over lumbar spine and was given Metacam and strict exercise instructions. On 8 Jun 2016, the dog had another 'strange episode' but it is not detailed when the first episode happened but occurred in Mar 2016 and another in Apr 2016. The dog became stiff and rigid during this and was then placed on floor and was ataxic. This lasted 5 minutes then resolved. Presented with no abnormalities and nothing was given. On 10 Aug 2016, was quiet and developed soft stools and then diarrhoea. Later the dog vomited four times and was presented again and given an anti-emetic. On 13 Aug 2016, still had diarrhoea and given Metrobactin and faecal sample taken but no abnormalities seen. Blood tests performed showed: Monocytes 1.16 (0.13-1.15), platelets 128 (143-448) and bile acid 9.3 (0.1-5.0). On 16 Nov 2016, dog collapsed present to emergency practice and dog was quiet and alert (legs slightly stiff also). Dog was discharged on 18 Nov 2016 as no further clinical signs other than diarrhoea. On 3 Jan 2017, had seizure in the night, panting, shaking and twitching that lasted a few minutes. On 12 Jan 2017, had a seizure. On 13 Jan 2017, started Pexon and no further information expected. This dog was part of a litter for which an adverse event was reported while still puppies (see case: 2014-UK-01867).	Cavalier King Charles Spaniel	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (23/03/2016-23/03/2016) 	O1 - inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03019	United Kingdom	Animal	Canine/dog	12 Year(s)	01/01/2017	31/05/2017	1	1	1	01/01/2017	Not Known	Death	Not Known	Suspected Adverse Reaction On an unknown date, dog vaccinated with Nobivac L4 (Unknown exact details and has not been fully confirmed to be a Nobivac vaccine). The dog was stated to have had a heart murmur pre-existing and died days after second dose of vaccine. No further information expected.	Cavalier King Charles Spaniel	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml 1 Animal (01/01/2017-01/01/2017) 	O - Unclassifiable/unassessable	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03025	United Kingdom	Animal	Canine/dog	2 Month(s)	31/05/2017	30/08/2017	1	1	0	02/06/2017	Yes; R-> No	Leucocytosis,Neutrophilia,Arrhythmia,Increased heart rate,Localised pain NOS (see other 'SOCs' for specific pain),Enlarged lymph nodes (generalised),Pyrexia,Mucous stool,Basophilia,Monocytosis,Platelet disorder NOS,Off colour	Other	Suspected Adverse Reaction On 31 May 2017, puppy vaccinated with second dose of Nobivac DHPPI and Nobivac L4 (not given at room temperature - extra label use). On 2 Jun 2017, puppy was quiet, off colour, temperature of 102.8 degrees Fahrenheit and was sore around chest area. Presented and temperature was 104 degrees Fahrenheit and was given Metacam, antibiotic injection and had a radiograph with no abnormalities seen. On 3 Jun 2017, temperature 104.7 degrees Fahrenheit, still quiet but eating. Blood tests performed: WBC 20.82 (5.5-16.9), Neutrophils 15.38 (9-12), Monocytes 3.82 (0.3-2), Basophils 0.14 (0.0-0.1) and biochemistry normal. Given Metacam and Synulox. On 4 Jun 2017, dog still pyrexic (40.3 degrees Celsius), respiratory rate 40, heart rate 160 with an irregular arrhythmia and passed some mucousy faeces overnight and given Metronidazole and Synulox. On 5 Jun 2017, the dog was still in hospital and was examined and had pain in neck area, still pyrexic and no arrhythmia detected. Blood tests performed: WBC 17.39 (5.5-16.9), Neutrophils 12.33 (9-12), Monocytes 2.74 (0.3-2), platelets 550 (175-500) and basophils normal (no value or reference range given). On 6 Jun 2017, the dog was placed on intravenous fluid therapy and had a cerebral spinal fluid tap was taken, dog still pyrexic and had palpable lymph nodes. Given Dexadrenon and await pending results. Follow up 30 Aug 2017 - No further information received - case closed	Jack Russell Terrier	3.88	Nobivac DHPPI, Lyophilisate for Suspension for Injection for Dogs - 1,1 Months,10,1 ml 1 Months 1 Animal (31/05/2017-31/05/2017) Nobivac L4 Suspension for Injection for Dogs - 1,1 Months,10,1 ml 1 Months 1 Animal (31/05/2017-31/05/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03073	United Kingdom	Animal	Canine/dog	3 Year(s)	01/06/2017	13/07/2017	1	1	0	03/06/2017	Not Known	Injection site abscess,Injection site swelling,Low platelet count,Lymphocytosis,Abnormal test result,Depression,Off colour,Pyrexia,Not eating,Neutropenia	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac L4 on 1 Jun 2017. Reported finished Canuaral and Apquel for an ear infection on the day he was vaccinated 3 Jun 2017 owner reports been off colour and not eating much since the afternoon of the vaccine. Temperature 39.7 Celsius, Pardale was given. 7 Jun 2017 no improvement and large swelling developed over 2 days at injection site. Temperature 40.2 Celsius, was flat and depressed. Admitted to lance and flush. Flushed 200mls of pus. Sent away for culture and sensitivity. Neutrophils 1.9 (2.9-11.6), Lymphocytes 7.29 (1-5) and placed on intra venous fluids. Given intra venous Metronidazole and Amoxyclav. Await results. Follow up 13 Jul 2017 - further information received, bloods carried out on 7 Jun 2017 also showed Platelets 70 (148-484), swab showed Pasturella identified and placed on Synulox. The dog was seen on 22 Jun 2017 with just a scab at the wound site and healing well. Nothing further expected.	Crossbred	12.3	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Unknown 1 Animal (01/06/2017-01/06/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03079	United Kingdom	Animal	Canine/dog	1.5 Month(s)	10/05/2017	07/06/2017	1	1	0	11/05/2017	Yes; R-> Not Known	Decreased appetite,Shivering,Pyrexia	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 10 May 2017. 11 May 2017 owner reported the dog had been shivering and not eaten, but dog has a picky appetite anyway. Temperature 40.2 Celsius. Admitted for intra venous fluids. Metacam was given. The dog was sent home later the same day. Unknown outcome. Nothing further expected.	French Bulldog	13.8	Nobivac DHP - 1,N/A/N/A ,10,1 ml Unknown 1 Animal (10/05/2017-10/05/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Unknown 1 Animal (10/05/2017-10/05/2017) 	B - Possible	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2017-UK-03082	United Kingdom	Animal	Canine/dog	3 Month(s)	10/05/2017	07/06/2017	1	1	1	0	25/05/2017	Yes R-> Not Known	Lack of efficacy (parvovirus)	Not Known	Suspected Lack of Expected Efficacy Primary vaccine with Nobivac DHP and Nobivac L4 given on 10 May 2017. Puppy from a breeder who advised the dam was vaccinated. Presented for second vaccine on 24 May 2017, but on presentation it was reported the dog had vomited the previous evening and did not eat the morning of being seen at the vets. The dog vomited watery fluid again. Very depressed and dull. On abdomen palpation the dog vomited and seems painful in the abdomen. The dog was admitted and placed on intra venous fluids and given Cerenia. Bloods were carried out. Red Blood Cells 4.94 (5.65-8.87), Haematocrit 0.30% (0.37-0.61), Haemoglobin 107 (131-205), Platelets 12 (148-484). 25 May 2017 eaten well overnight. Parvo snap test was carried out and positive in house. Faecal sample was sent. Cerenia was repeated, Omeprazole was given as well as Zinacif. 26 May 2017 the dog was sent home as very bright. 7 Jun 2017 the dog was given the second vaccine. Parvo PCR positive from external laboratory. Nothing further expected.	Labrador Retriever	8.5	Nobivac DHP - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (10/05/2017-10/05/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (10/05/2017-10/05/2017) 	N - Unlikely	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03083	United Kingdom	Animal	Canine/dog	6.33 Year(s)	08/05/2017	07/06/2017	1	1	1	0	29/05/2017	Not Known	Injection site swelling	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac L4 on 8 May 2017. 5 Jun 2017 injection site swelling noted 1 week prior to presentation. No treatment given. Nothing further expected.	Staffordshire Bull Terrier	28.9	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (08/05/2017-08/05/2017) 	A - Probable	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03093	United Kingdom	Animal	Canine/dog	8 Week(s)	13/06/2017	14/06/2017	1	1	1	1	13/06/2017	Yes R-> Yes	Sudden death	No Data	Suspected adverse reaction: An 8 week old male Samoyed dog was vaccinated on 13 June 2017 using Nobivac DHP and L4. The pup died five minutes post vaccination. The vet gave the pup some treats during the vaccine consultation and suspects death due to choking. Owners declined post mortem.	Samoyed	5.1	Nobivac DHP - N/A,N/A,N/A, 2.8Vial/Ampoules(s) 3 Years 1 Animal (13/06/2017-13/06/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (13/06/2017-13/06/2017) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03106	United Kingdom	Animal	Canine/dog	2 Year(s)	01/05/2017	08/06/2017	1	1	1	0	01/05/2017	Not Known	Head tremor	Not Known	Suspected Adverse Reaction-Limited information Vaccinated with Nobivac L4 on an unknown date. The dog had a head tremor in the following 24 hours after the vaccine. Resolved after 24 hours. The dog experienced the same sign after the second vaccine-see linked case 2017-UK-03107. Nothing further expected.	Other Canine/dog	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (01/05/2017-01/05/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03107	United Kingdom	Animal	Canine/dog	2 Year(s)	01/06/2017	08/06/2017	1	1	1	0	01/06/2017	Not Known	Head tremor	Not Known	Suspected Adverse Reaction-Limited information Vaccinated with Nobivac L4 on an unknown date. The dog had a head tremor in the following 24 hours after the vaccine. Resolved after 24 hours. The dog experienced the same sign after the primary vaccine-see linked case 2017-UK-03106. Nothing further expected.	Other Canine/dog	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (01/06/2017-01/06/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03120	United Kingdom	Animal	Canine/dog	7 Year(s)	09/05/2017	08/06/2017	1	1	1	0	21/05/2017	Not Known	Pyrexia,Limb weakness,Elevated total bilirubin,Abnormal test result,Elevated ALT,Inappetence,Elevated amylase,Elevated SAP,Elevated BUN	Not Known	Suspected Adverse Reaction Nobivac L4 given on 9 May 2017. 23 May 2017 presented as reporting dog intermittently weak on legs and inappetent, reported that occurred a few days before presentation, temperature 40.2 Celsius. Bloods were carried out: Amylase 1632 (500-1500), ALT 812 (0-110), ALP 185 (0-160), Total Bilirubin 31 (0-15), Urea 11.3 (1.7-9.9) and given antibiotics and Ranitidine. 24 May 2017 reported to be still unwell, temperature 38.8 Celsius. Antibiotic was given and a pyometra was ruled out. 25 May 2017 starting to improve, oral antibiotics given and eating better. Canine Pancreatitis test was abnormal, but Vet does not think it is an accurate result. Reported as a SAP. Nothing further expected.	German Shepherd Dog	44	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (09/05/2017-09/05/2017) 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03139	United Kingdom	Animal	Canine/dog	11 Week(s)	06/06/2017	14/07/2017	1	1	1	1	07/06/2017	Yes R-> Not Known	Encephalitis,Tonic-clonic seizure,Collapse (see also 'cardio-vascular' and 'systemic disorders'),Death,Hypothermia,Enteritis,Abnormal posture NDS,Hind limb ataxia,Hypoglycaemia,Abnormal necropsy finding,Head tilt - neurological disorder,Depression	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac DHP and Nobivac L4 on 6 Jun 2017. Reported that the puppy was bright at the time of the vaccine, however a small gap was noted in the skull but not a concern to the Vet. 7 Jun 2017 presented at 7.15pm collapsed. Back end ataxia, temperature 36.1 Celsius. Owner took the puppy home and kept warm and ate food at the Vets. The dog was given Dexamethasone. 8 Jun 2017 reported to have had a seizure lasting for about a minute and the dog was referred. The dog was seen at the Referral centre. The dog was showing signs of profound depression and demonstrating a head turn to the left and delayed postural responses in all four limbs. The dog was having seizures every 5 minutes with very rapid recovery lasting a short duration. Clinical signs were localised to the forebrain. Blood glucose was low on admission and this was corrected with IP fluids and later glucose in fluids. The seizures appeared to stop with normalization of the glucose. The diagnosis made was multi factorial and thought to be post vaccinal encephalitis and hypoglycaemia. The dog was discharged on 10 Jun 2017 with Prednisolone. Nothing further expected. Follow up 14 Jul 2017 - Reported that the dog died overnight on 19 Jun 2017. There were no reports of any seizures or neuro signs between the dog being discharged on the dog dying. Post mortem was carried out and indicated that the puppy was underweight. The gross findings are indicative of an enteritis affecting both small and large intestine. The pale appearance of the apparent mucosae and the overall pale appearance of skeletal muscles and internal organs may suggest anaemia (no blood results were available). Coupling these three main findings (enteritis, myocardial changes and anaemia), a viral enteritis with a possible myocardial involvement and bone marrow involvement is one of the main differential in this case. Histopathology confirmed the presence of a necrotising enteritis with depletion of mesenteric lymph nodes and gut associated lymphoid tissue. The lesion observed grossly on the heart do not support a necrotising myocarditis as suspected grossly and the bone marrow cellularity is within the normal limits. Main differential in this case is still an acute viral enteritis (likely triggered by the vaccine reaction) possibly sustained by enteric viruses other than parvovirus (Coronavirus or Rotavirus most likely). Nothing further expected.	Chihuahua	0.68	Nobivac DHP - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (06/06/2017-06/06/2017) Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (06/06/2017-06/06/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03155	United Kingdom	Animal	Canine/dog	7 Year(s)	06/06/2017	12/06/2017	1	1	1	1	07/06/2017	Not Known	Decreased packed cell volume (PCV),Elevated SAP,Leucocytosis,Lymphocytosis,N eutropenia,Pale mucous membrane,Ataxia,Death by euthanasia,Decreased appetite,Listless,Off colour,Elevated temperature,Weight loss,Immune mediated haemolytic anaemia,Monocytosis	Not Known	Suspected Adverse Reaction Vaccinated with Nobivac L4 on 6 Jun 2017. 9 Jun 2017 reported to be listless 24 hours post vaccine. On examination the dog was subdued, weight loss, pale mucous membranes with a temperature of 39.3 Celsius. Owner reported that the dog had a decreased appetite and stumbling. Bloods were carried out, Haematocrit 17 (37.3-61), Neutrophils 2.18 (2.95-11.64), Lymphocytes 5.36 (1.05-1), Monocytes 1.94 (0.16-1.2), White Blood Cells 28.8 (5.05-16.16), ALP 233 (23-212). Coombs test was sent away. The dog was sent to emergency Practice for out of hours care and was reported to have had a blood transfusion. Colvasone, Augmentin, Losec, Atopica and Vetergesic. PCV ranged from 12-16% (25-57%) and Immune Mediated Haemolytic Anaemia was diagnosed. The dog was discharged on 11 Jun 2017, PCV at discharged was 10%. The dog was euthanased on 14 Jun 2017 as PCV decreased to 8%. No post mortem was carried out. Nothing further expected.	Crossbred	14.7	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml Unknown 1 Animal (06/06/2017-06/06/2017) 	B - Possible	NCA agrees with the MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-03221	United Kingdom	Animal	Canine/dog	8 Year(s)	19/09/2016	14/06/2017	1	1	1	1	13/03/2017	No	Lack of efficacy,Sudden death	Other	Suspected Lack of Expected Efficacy On 4 May 2015, dog was vaccinated with Nobivac Lepto 2 and on 19 Sep 2016, dog vaccinated with Nobivac DHPPI and Nobivac L4 (first Nobivac L4). On 7 Mar 2017, dog developed anorexia, lethargy with intermittent vomiting and jaundice. On 13 Mar 2017, presented and blood tests showed marked elevated liver enzymes, Total bilirubin and mild azotaemia. Also on examination, had sinus arrhythmia, slightly dry mucous membranes and mild skin tenting. Blood tests taken for Leptospirosis serology. The dog was sedated for an abdominal ultrasound and shortly after receiving these the dog had a cardiac arrest, attempted resuscitation but was unsuccessful and the dog died. The serology MAT showed L. Copenhageni 1:100, no blood or urine PCR performed. Post mortem was performed and histology of liver tissue showed Leptospira via FISH analysis and was positive. No confirmed serovar and no further information expected.	Border Collie	19.6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1 ml 1 Animal (19/09/2016-19/09/2016) 	N - Unlikely	NCA agrees with the MAH assessment.

NOBIVAC L4	GBR-MERCKMSD-2017-UK-05512	United Kingdom	Animal	Canine/dog	13 Year(s)	30/09/2017	06/10/2017	1	1	1	02/10/2017	Yes; R> Not Known	Faecal incontinence,Pain NOS,Death by euthanasia,Urinary incontinence,Limb weakness	Not Known	Suspected adverse reaction. The dog was vaccinated with Nobivac DHPI and Nobivac L4 on 31 Aug and 13 Sept 2017. Extra Label Use - high frequency. Clinically well at time of both vaccinations. The owner presented the dog on 2 Oct 2017 for euthanasia, as dog had gone off her back legs, incontinence and was in pain. Euthanased - No post mortem. No more information expected. Follow up 10 Oct 2017. On 30 Sep 2017, dog received the second vaccination of Nobivac DHPI and Nobivac Lepto 4 (not on 13 Sep 2017) of the primary course. No further information expected.	German Shepherd Dog	Not Known	Nobivac DHPI, Lyophilisate for Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (30/09/2017-30/09/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (30/09/2017-30/09/2017); 	O1 - Inconclusive	Agree with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05513	United Kingdom	Animal	Canine/dog	4 Month(s)	07/09/2017	05/10/2017	1	1	0	04/10/2017	Yes; R> Yes	Elevated gamma-glutamyl transferase (GGT),Vomiting	No Data	Suspected adverse reaction. The dog was vaccinated with Nobivac DHP and Nobivac L4 on 7 Sept 2017. The dog was clinically well at the time of vaccination. On 03 Oct 2017, the dog presented to vets on 4 Oct 2017 with vomiting. The dog was otherwise well. Bloodwork showed GGT 6 [0-2]. The dog was treated with antibiotics, gut protectants and Cerenia. No more information expected.	German Shepherd Dog	14	Nobivac DHP - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (07/09/2017-07/09/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (07/09/2017-07/09/2017); 	O1 - Inconclusive	Agree with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05546	United Kingdom	Animal	Canine/dog	9 Year(s)	14/08/2017	29/08/2017	1	1	0	21/08/2017	Yes; R> Yes	Injection site abscess,Injection site scab,Injection site necrosis,Injection site lump,Injection site serosanguinous discharge,Cellulitis,Wound	No Data	Suspected Adverse Reaction: On 24 Aug 2017 a veterinary representative reported that a dog developed a 10 x 15 cm mass with cellulitis, abscession on 21 Aug 2017 after a veterinarian administered Nobivac L4 on 14 Aug 2017. The dog was presented to the hospital on 22 Aug 2017. It is unknown if the dog was treated with any medications. The dog has previously received Nobivac L4 in approximately 2016. It is unknown if there was any incident at that time. On 14 Aug 2017 the dog also received a Nobivac KC. Follow up expected. Follow up 29 Aug 2017 On 24 Aug 2017 was seen with the mass even larger (size not stated) they drained off 35 ml of serosanguinous fluid, placed on Clavaseptin antibiotics had been given metacam 2 days previously. Swab was taken and owner advised the lump may burst open. 29 Aug the lump is sloughing off in places and pus and discharge is present. Is a 20 cm open wound from shoulder to shoulder. Continue on Clavaseptin and metacam. Sedated the dog and flushed the wound, necrotic tissue was removed, applied some sutures but will need to heal by second intention. 30 Aug no more pus but still lot of serosanguinous fluid. 31 Aug 2017. Sedated and flushed the wound again. 1 Sept swab results are positive for streptococcus canis. Sedated and flushed wound again on 2 and 5 Sept. Is improving. 7 Sept, they were able to close some of the wound with sutures. 11 Sept wound healing well continue on medication not stated what. 15 Sept wound healing well and some slight scabbing. 25 Sept removed all sutures apart from two wound is healed well. 29 Sept 2017 all sutures removed and wound is healed. No more information expected.	Bull Terrier	24	Nobivac KC - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (14/08/2017-14/08/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (14/08/2017-14/08/2017); 	B - Possible	Agree with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05552	United Kingdom	Animal	Canine/dog	10 Week(s)	09/10/2017	09/10/2017	1	1	0	09/10/2017	Yes; R> Not Known; R> Not Known	Head down,Limb weakness,Collapse (see also Cardio-vascular and Systemic disorders),Pale mucous membrane,Sleepiness - systemic disorder	Not Known	Suspected Adverse Reaction On 9 Oct 2017, a dog was vaccinated with Nobivac DHP and Nobivac L4. On the same day, unknown exact time association but dog presented collapsed, unable to hold head up, and unable to bear weight on hind limbs. On examination, pale mucous membranes, respiration regular and cardiac auscultation normal. The owner thought the dog was sleepy at home after vaccination. The dog is currently being given glucose and oxygen therapy. The dog 2 weeks prior to vaccination, had haemorrhagic diarrhoea and was treated with Metronidazole and resolved and was off treatment 5 days prior to vaccination. No further information expected.	Chihuahua	0.505	Nobivac DHP - 1,N/A/N/A ,10,1 ml Not applicable 1 Animal (09/10/2017-09/10/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Not applicable 1 Animal (09/10/2017-09/10/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Not applicable 1 Animal (09/10/2017-09/10/2017); 	B - Possible	Agree with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05573	United Kingdom	Animal	Canine/dog	15 Week(s)	08/10/2017	09/10/2017	1	1	0	08/10/2017	Yes	Vomiting	No Data	Suspected Adverse Reaction On 08 October 2017, the dog was fit and well and was vaccinated with Nobivac L4. Later on the same day (unknown the exact time), the dog started vomiting and was taken to the out of hours veterinary services. The dog was admitted and placed on intravenous fluid therapy, afterward the dog started to improve. No more information expected.	Pug	Not Known	Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Not applicable 1 Animal (08/10/2017-08/10/2017); 	A - Probable	Close time association and suspected hypersensitivity reaction - product involvement is probable.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05587	United Kingdom	Animal	Canine/dog	1.3 Year(s)	10/10/2017	10/10/2017	1	1	0	10/10/2017	Yes; R> Yes; R> Not Known	Injection site bleeding,Pale mucous membrane,Low blood pressure,Ataxia,Anaphylaxis	Not Known	Suspected Adverse Reaction On 10 Oct 2017, a dog was vaccinated with Nobivac DHP, Nobivac L4 and Nobivac KC, clinically well at time of vaccination however owner reported that the dog vomited after a treat a few days prior. The dog had small amount of bleeding from the injection site but stopped with once some pressure was applied. After leaving the practice the owner took the dog to the park and attempted to defecate and then became wobbly on her legs and rushed back into the practice. This occurred within 5 minutes of the consultation ending. On examination, mucous membranes were pale and heart rate 90 and blood pressure 60. The dog was given a bolus of fluids and stabilised with 20-30 minutes, heart 100 and blood pressure 110 and mucous membranes pink. The dog has remained stable and await further information. Follow up 16 Oct 2017 - On 10 Oct 2017, the dog had a PCV of 44 % (full haematology and biochemistry was not performed) and was discharged from the vets with oral Chlorphenamine later that day. On 13 Oct 2017, dog was reported as fully recovered. No further information expected, closed case.	Shih Tzu	6.2	Nobivac DHP - 1,N/A/N/A ,10,1 ml Not applicable 1 Animal (10/10/2017-10/10/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,0.4 ml Not applicable 1 Animal (10/10/2017-10/10/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,10,1 ml Not applicable 1 Animal (10/10/2017-10/10/2017); 	B - Possible	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05598	United Kingdom	Animal	Canine/dog	10 Year(s)	27/09/2017	10/10/2017	1	1	1	02/10/2017	Yes; R> Yes	Other coagulation abnormality,Tachycardia,Pale mucous membrane,Icterus,Polydipsia,Polyuria,Death by euthanasia,Anorexia,Lethargy (see also Central nervous system depression in Neurological),Abnormal test result,Immune mediated haemolytic anaemia,Prolonged capillary refill time,Elevated BUN,Elevated SAP,Decreased packed cell volume (PCV)	No Data	Serious suspected adverse event following the use of Nobivac DHP and L4 reported by the vet on the 10th October 2017. A 10 year old, female neutered, Labrador cross spaniel, of unknown weight was vaccinated with Nobivac DHP and Nobivac L4 on 27th September 2017. This is the first time the dog had been given Nobivac vaccines, previously the dog had been vaccinated with Eurican. She was clinically well at the time of vaccination, though had a history of antibiotic-responsive diarrhoea and on monthly vitamin B12 injections and hypoallergenic food. On 9th October 2017, the dog was taken back to the practice with 5-7 day history of progressive lethargy, anorexia, and polyuria /polydipsia. On the day of presentation her owners had noticed that her gums were very pale. On examination, capillary refill time was not readable, Heart rate 140 beats per minute. Packed cell volume was 7%. Saline agglutination was not performed but it was noticed that her serum was icteric and the blood clotted very quickly in the tube. Haematology was unable to be performed. Biochemistry showed a mild elevation in urea 15, ALP 300, lactate 2.7 (no reference values given). A presumptive diagnosis of Immune mediated haemolytic anaemia was made and she was given intravenous fluids and steroids. The dog clinically deteriorated through the day and bloodwork was discussed with the owners but they elected for euthanasia. No imaging was performed but the vet commented that no palpable fluid thrill was found on examination. No post mortem has been performed at this point, the body is currently frozen. Further information may become available.	Crossbred	Not Known	Nobivac DHP - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (27/09/2017-27/09/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (27/09/2017-27/09/2017); 	B - Possible	Although a full investigation has not been carried out, immune mediated disease can have many triggers which can include vaccination, so product involvement is possible - two products used.
NOBIVAC L4	GBR-MERCKMSD-2017-UK-05620	United Kingdom	Animal	Canine/dog	6 Year(s)	02/10/2017	06/12/2017	1	1	0	02/10/2017	Not known; R> Yes; R> Not Known	Injection site inflammation,Injection site mucopurulent discharge,Injection site swelling,Injection site pain,Neutrophilia,Emesis,Anorexia,Lethargy (see also Central nervous system depression in Neurological),Pyrexia,Haemococentration	No Data	Suspected adverse reaction following the use of Nobivac L4 reported by the attending vet on 10th October 2017. A 6 year old, female neutered, Cocker Spaniel, weighing 14.4kg was given a Nobivac L4 vaccination on 4th September 2017 and a second injection on 2nd October 2017. The dog was clinically well at the time of both vaccinations. It is unknown if the dog previously has had Nobivac vaccination, as it was imported from Greece. Over the course of the next 24 hours, the dog developed a swelling at the injection site and was reluctant to move her neck due to pain. The dog was seen by the vet on the 7th October 2017 when the swelling was fist-sized, she was pyrexic (temp 40.2C), not eating and purulent fluid was aspirated from the mass. It was decided not to lance the mass was at this point as a large amount of soft tissue inflammation was present. The vet administered an injection of Amoxycillin and oral Antrobro (clindamycin) was dispensed which the owner did not originally give but then started next day when advised to. Re-presented on 10th October 2017 with the swelling now large (described as size of 2 fists), dog is unwell, had vomited and pyrexia has worsened (temp 40.8C). Blood tests were taken and showed biochemistry uremarkable, haematology showed neutrophilia 20.1 (ref 3.5-12) and some haemocoentration. The dog was admitted for intravenous fluid therapy and further treatment. Further information is expected. Follow up 6 Dec 2017 No more information received, close case.	English Cocker Spaniel	14.4	Antrobro unidentified - N/A/N/A/N/A ,24,Unknown Not applicable 1 Animal (N/A-N/A)-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (02/10/2017-02/10/2017); Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A ,24,1 Dose Not applicable 1 Animal (N/A-07/10/2017); 	B - Possible	NCA agrees with MAH assessment

NOBIVAC L4	GBR-MERCKMSD-2018-UK-00383	United Kingdom	Animal	Canine/dog	3 Month(s)	11/01/2018	05/02/2018	1	1	1	14/01/2018	No. Elevated ALT,Elevated SAP,Abnormal radiograph finding,Decreased percentage of reticulocytes,Decreased haemoglobin,Decreased packed cell volume (PCV),Abnormal red blood cell,NT - necrohemorrhagic enteritis,Abnormal posture,Hypokalaemia,Intestinal disorder NOS,Hypnatremia,Hypochloramemia,Anaemia NOS,Low platelet count,Leucopenia,Lymphopenia,Neutropenia,Lymphadenitis,Spleen and reticulo-endothelial system disorder NOS,Pale mucous membrane,Drooling,Diarrhoea,Vomiting,Not drinking,Head pressing,Unable to stand,Pulmonary oedema,Increased respiratory rate,Death by euthanasia,Hypothermia,Lethargy (see also Central nervous system depression in 'Neurological'),Reduced responses,Off	Other	Suspected Adverse Reaction On 11 Jan 2018, puppy vaccinated with second dose of Nobivac DHP and Nobivac L4, on clinical exam owner reported was still having haemorrhagic loose stools (extra label use). The owner was given more Panacur 10% solution but did not use this. On 16 Jan 2018, puppy presented as not eating or normal soft since 14 Jan 2018. On 15 Jan vomited and also on 16 Jan 2018 as well as continued diarrhoea. On examination was minimally responsive, pale mucous membranes, respiratory rate 150, temperature 40.8 degrees Celsius, body score condition low, skin tent and a tucked up posture. The puppy was admitted and started intravenous fluid therapy and blood tests performed: PCV 20 (35-57), Haematocrit 18.9 (37.3-61.7), RBC 3.37 (5.65-8.87), Haemoglobin 7 (13.1-20), platelets 1.14E+11 (0.1-0.4), lymphocytes 0.16 (1.05-5.1), Monocytes 0.01 (0.16-1.12), Neutrophils 0.02 (0.95-11.64), Eosinophils 0 (0.06-1.25), ANK 339 (46-337) (6-75), Sodium 139 (145-157), Potassium 3.32 (3.5-5.5), Chloride 103 (105-119). The puppy was radiographed and found a small amount of fluid in stomach, gas in colon - puppy was drooling. Given Zinacef, Metronidazole and Cerenia. The puppy ate a small amount of food. On 17 Jan 2018, given more Zinacef, Vitamin B12, Veteregic and temperature 35.6 degrees Celsius and heart rate 140 beats per minute. The puppy was unstable on feet and could not stand without assistance for long periods of time. Await further information. Puppy had a adverse event post first vaccination. See linked case: 2018-UK-00382 At this event puppy was given Panacur 10% liquid. Follow up 23 Jan 2018 - On 16 Jan 2018, vet reported the dog was not eating or drinking and was lethargic. Later that day the vet reported the dog had white mucous membranes. Bloods showed a MCH 20.9 (21.9-26.1), MCHC 31.8 (32.6-39.2), WBC 0.2 (4.9-17.6) and a Coombs test was negative. On 17 Jan 2018, vet reported the dog regurgitated on abdominal palpation and was head pressing. Later that day the dog was in lateral recumbency and was euthanased. Faecal analysis was negative for coccidia, Giardia, cryptosporidia, Campylobacter and Salmonella. On 18 Jan 2018 a post mortem showed; serosanguinous fluid in the abdominal cavity and pulmonary oedema in the trachea, bronchi and lungs. There was severe segmental necro-hemorrhagic enteritis of the small intestine with multifocal severe acute and subacute Peyer patches necrosis. The large intestine showed severe proximal segmental catarrhal enteritis with multifocal severe acute and subacute Peyer patches necrosis. There was a severe haemorrhagic mesenteric lymphadenitis. Pathologist was suspicious of Parvovirus infection. The	Bull Terrier	6.5	Nobivac DHP - 1,N/A/N/A, 10.1 ml 1 Animal (11/01/2018) Nobivac L4 Suspension for Injection for Dogs - 1,N/A/N/A, 10.1 ml 1 Animal (11/01/2018) 	N - Unlikely	NCA agrees with MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2018-UK-00403	United Kingdom	Animal	Canine/dog	4 Month(s)	01/11/2017	05/03/2018	1	1	0	02/11/2017	Not known, Cough,Lethargy (see also Central nervous system depression in 'Neurological'),Listless,Pyrexia,Low weight gain,Lung sound,Neutrophilia,Positive tracheal pinch,Decreased packed cell volume (PCV),Decreased haemoglobin,Decreased red blood cell count,Abnormal radiograph finding,Abnormal test result,Leucocytosis	Not known	Suspected adverse reaction. Vaccinated with Nobivac KC and Nobivac L4 on the 1 Nov 2017. 24 hours later started coughing. Examined on the 21 Dec 2017 - Positive tracheal pinch. Chest clear on exam. Treated with Loxicom. 17 Jan 2018: Still coughing, quiet, 39.3C, crackling sounds on chest auscultation, no weight gain. Treated with antibiotics and Loxicom. 18 Jan 2018: Improving. No more information expected. Linked with 2 dogs from same household (also vaccinated). 2018-UK-00404, and 2018-UK-00405. Follow up 31 Jan 2018 - Vet reported that the dog finished the antibiotics 1 week before (24 Jan 2018). Vet reported dog has an ongoing cough, is lethargic and has a temperature of 39.1 degrees C. No further information expected. Follow up 5 Mar 2018 - On 17 Jan 2018, dog was treated with Noroclav. On 31 Jan 2018, vet reported that a blood test for Lungworm was negative, haematology showed WBC 22.45 (6-17), neutrophils 18.66 (3-12), RBC 4.77 (5.5-8.5), haemoglobin 11.1 (12-18), haematocrit 31.53 (37-55) and MCHC 35.1 (31-34). X-rays of the chest showed a bronchial pattern throughout the lungs and an alveolar pattern caudoventrally. Bronchoalveolar lavage culture revealed Bordetella bronchiseptica. Viral immunology was positive for Canine Parainfluenza virus. Pharyngeal and tracheal swabs cultured sparse bacillus, non haemolytic streptococcus and a moderate growth of non-haemolytic Escherichia coli and Pasteurella. Treated with Noroclav. No further information expected.	German Spitz - Pomeranian	2.2	Loxicom unidentified - 1,N/A/N/A, 24.1 Dose Unknown 1 Animal (N/A-N/A) Nobivac KC 1,N/A/N/A, 24.1 Dose Not applicable 1 Animal (01/11/2017) Nobivac L4 1,N/A/N/A, 24.1 Dose Not applicable 1 Animal (01/11/2017) Nobivac L4 1,N/A/N/A, 24.1 Dose Not applicable 1 Animal (01/11/2017) Nobivac L4 1,N/A/N/A, 24.1 Dose Unknown 1 Animal (17/01/2018) 	O1 - Inconclusive	NCA agrees with MAH assessment.
NOBIVAC L4	GBR-MERCKMSD-2018-UK-00414	United Kingdom	Animal	Canine/dog	5.8 Year(s)	06/07/2015	18/01/2018	1	1	0	01/08/2015	Not known, Vasculitis,Emesis,Alopecia focal,Skin scabs,Skin ulcer,Cold feeling of extremity,Skin disorders NOS,Dry skin,Skin scab,Skin thinning	Not known	Suspected Adverse Reaction in 2012 (exact date unknown), the dog was vaccinated with Nobivac Rabies. In 2015 (exact date unknown), the dog was vaccinated with Nobivac Rabies and Nobivac L4. Approximately 3 weeks later the dog was presented with scabs on the pinnae. Treatment with Isaderm was given and improvement was noticed. Approximately one month after this (exact date unknown), the dog was presented with scabs on his tail. Treatment with Isaderm was continued but the lesions failed to respond. Treatment with Pentoxifylline was given but the lesions were never really controlled. On the 23 December 2015, the dog was started with Prednisolone and recently (exact date unknown) his tail tip was amputated. Now (time when the case was reported) the dog is off all medication. No more information expected. Follow up 24 Jan 2018 - Clinical History received; On 20 Jul 2012, dog was vaccinated with Nobivac Rabies and no reaction occurred. On 3 Jun 2014, dog was given a Bravecto 250mg tablet and no reaction occurred. On 18 Jul 2014, dog was vaccinated with Nobivac L4 and Nobivac KC and no reaction occurred. On 19 Aug 2014, dog was vaccinated with Nobivac L4 and no reaction occurred. On 19 Aug 2014, dog was dispensed a Bravecto 250mg tablet (unknown date of administration). On 30 Mar 2015, Clearspot spot on flea treatment was administered. On 2 Jun 2015, dog was given a Bravecto 250mg tablet. On 8 Jul 2015, dog was vaccinated with Nobivac L4 and Nobivac Rabies (EU, concurrent product) and was reported as clinically well at the time of vaccination. On 1 Aug 2015, vet reported the dog had bilateral scabbing on the ear pinnae. Treated with Isaderm. On 1 Sep 2015, vet reported the ears had resolved and there were dry scabs and alopecia on the tail tip, which was tender. Treated with Isaderm and Metacam and Clearspot spot on (this was continued monthly). On 8 Sep 2015, owner reported the dog had vomited with metacam and this was stopped. On 3 Nov 2015, vet reported the tail had increased alopecia, thinning at the tip and appeared cold to touch. On 26 Nov 2015, referral vet diagnosed vasculitis and dog was started on long term treatment Trental (pentoxifylline) 100mg three times a day. On 2 Mar 2016, vet reported the tail had not improved and started treatment with Prednisolone. On 4 Mar 2016, serology for Leishmania was negative. On 9 May 2016, vet reported skin on tail tip was dry and scaly, with areas of crust and ulceration. On 1 Sep 2016, vet reported the tail tip was viable and had a good blood supply. No further information expected. The dog was vaccinated in 2017 with Nobivac L4 and Nobivac KC and developed vasculitis, please see linked case 2018-UK-00545.	Jack Russell Terrier	Not known	Bravecto 250 mg Chewable Tablets for Dogs - 250,N/A/N/A, 3.50 mg Unknown 1 Animal (03/06/2014-02/06/2015) Clearspot 100 mg Spot-on Solution for Medium Dogs - 1,1 Months,24.1 Dose 1 Month 1 Animal (30/03/2015-N/A) Isaderm 5 mg/g + 1 mg/g Gel for Dogs - 1,1,12 Hours,24.1 Dose 12 Hours 1 Animal (01/08/2015-N/A) Nobivac L4 1,N/A/N/A, 24.1 Dose Unknown 1 Animal (08/07/2015-08/07/2015) Nobivac Rabies - 1,N/A/N/A, 10.1 ml Unknown 1 Animal (08/07/2015-08/07/2015) Nobivac L4 1,N/A/N/A, 24.1 Dose Unknown 1 Animal, Treatment Start Date 02/03/16 (N/A-N/A) 	O1 - Inconclusive	NCA agrees with the MAH assessment
NOBIVAC L4	GBR-MERCKMSD-2018-UK-00425	United Kingdom	Animal	Canine/dog	2 Year(s)	19/01/2018	21/02/2018	1	1	0	19/01/2018	Not known, Diarrhoea,Vomiting,Anaphylaxis,Hypocalcaemic condition,Ataxia,Recumbency,Colic (see also 'Cardio-vascular' and 'Systemic disorders'),Hypothermia,Labouring breathing,Hyperglycaemia,Hyperphosphataemia,Elevated BUN,Elevated creatinine,Elevated total bilirubin,Elevated SAP,Abnormal red blood cell,Elevated gamma-glutamyl transferase (GGT),Dull,Thrombocytopenia,Eosinophilia,Pale mucous membrane	No Data	Suspected adverse reaction. Vaccinated with Nobivac DHP and Nobivac L4 on 19 Jan 2018. Within 1 hour, wobbly, breathing heavily and then collapsed. Vomited white foam and bile. Pale mucous membranes. Treated with IV fluids, Steroids, Cerenia, Oxygen therapy, warmed as temperature 37.4 degrees. Note - no loss of consciousness, just very flat. Await more information. Follow up 23 Jan 2018 - On 20 Jan 2018, vet reported the dog had vomiting and diarrhoea and was dull. Treated with antibiotics and Cerenia. On 22 Jan 2018, vet reported bloods showed ALP 905 (12-83), GGT 21 (1-14), Tbil 21 (0-16), Urea 44.1 (1.7-7.4), creatinine 355 (20-124), phosphorus 2.95 (0.8-1.8), glucose 7.3 (2-6.3), calcium 2.17 (2.2-3.0), eosinophils 4.9 (0.1-1.5), MCHC 36.9 (30-36.5) and platelets 69 (200-500). Supportive treatment given (no details supplied). Await further information. Follow up 25 Jan 2018 - On 24 Jan 2018, bloods showed ALP 568 (12-83), GGT 19 (1-14), Urea 31.5 (1.7-7.4), Creatinine 57 (20-124) and glucose 5.2 (3-3). On 25 Jan 2018, vet reported the dog was eating a small amount and had not vomited. Await further information. Follow up 21 Feb 2018 - On 21 Feb 2018, vet reported the dog was improving, but was not recovered. Further blood tests have been carried out, await further information.	Pug	8	Antibiotic Unidentified - 1,N/A/N/A, 24.1 Dose 1 Animal (N/A-N/A) Cerenia unidentified - 1,N/A/N/A, 24.1 Dose Unknown 1 Animal (N/A-N/A) Nobivac DHP - 1,N/A/N/A, 10.1 ml Unknown 1 Animal (19/01/2018-19/01/2018) Nobivac L4 1,N/A/N/A, 24.1 Dose Unknown 1 Animal (19/01/2018-19/01/2018) 	8 - Possible	NCA agrees with MAH assessment

NOBIVAC L4	HUN-MERCKMSD-2017-HU-00009	Hungary	Animal	Canine/dog	3 - 3.5 Year(s)	04/01/2017	10/03/2017	1	1	0	04/02/2017	Yes, R> Yes	Intrauterine death, Respiratory failure, Anaemia NOS, Abnormal necropsy finding NT - chronic (interstitial) pneumonia/pleuropneumonia, Liver disorder NOS	No Data	Case originates from a post authorization study S15358-00. Suspected adverse reaction. On 04 Jan 2017 the dog was vaccinated as a control in the clinical trial, according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. On 04 Feb 2017 the dog whelped without intervention at term one live, less viable puppy and one stillborn puppy. The live puppy died next day. Both puppies were submitted to autopsy. Follow-up on 24 Feb 2017. Autopsy results stillborn puppy: Diffuse atelectasis in the lungs with respiratory failure, and rupture of the liver with acute hematomas, and acute posthemorrhagic anaemia. Dead puppy next day: Histo-lymphocytic interstitial pneumonia with respiratory failure. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	American Staffordshire Terrier	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (04/01/2017-04/01/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (04/01/2017-04/01/2017); 	N - Unlikely	There isn't a reasonable association in time between the administration of the product and the onset of the AE, due to the result of autopsy
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00010	Hungary	Animal	Canine/dog	2 - 2 Year(s)	04/01/2017	24/02/2017	1	1	0	09/02/2017	Yes, R> Yes	Uterine rupture, Intrauterine death	No Data	Case originates from a post authorization study S15358-00. Suspected adverse event. On 04 Jan 2017 the dog was vaccinated as a control in the clinical trial, according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 13-Feb-2017, that on 08-Feb-2017 the bitch started to show signs of whelping, but the signs stopped soon, therefore the owner did not expect whelping. On 09 Feb 2017 it became obvious the whelping was in process, but the bitch was not able to whelp. The owner submitted the bitch for caesarean section in the evening of 09 Feb 2017. During the operation it was diagnosed that two absolutely large puppies were present and uterine rupture took place due to the long time between the first signs of whelping and the caesarean section. None of the puppies were alive. The attending vet diagnosed absolutely large puppies, suffocation at birth, uterine rupture. No further post mortem examination was carried out. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (04/01/2017-04/01/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (04/01/2017-04/01/2017); 	N - Unlikely	There isn't a reasonable association in time between the administration of the product and the onset of the AE. The cause of the intrauterine death of puppies was the uterine rupture due to large size of puppies and their suffocation.
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00011	Hungary	Animal	Canine/dog	4 Year(s)	24/01/2017	07/08/2017	1	1	0	11/02/2017	Yes, R> Yes	NT - chronic (interstitial) pneumonia/pleuropneumonia, Cleft palate, Liver disorder NOS, Anaemia NOS, Intrauterine death, Papillary necrosis, Hydrocephalus	No Data	Case originates from a post authorization study S15358-00. Suspected adverse reaction. On 24 Jan 2017 the dog was vaccinated as a control in the clinical trial, according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 15 Feb 2017, that the bitch whelped at term two live, healthy puppies and one stillborn puppy on 11 Feb 2017 without intervention. The stillborn puppy had a cleft palate. The stillborn puppy was submitted to autopsy. Further investigation on the pup is being performed, awaiting results. Follow-up on 24 Feb 2017. Autopsy results: Histo-lymphocytic interstitial pneumonia with respiratory failure, liver lobe rupture with acute posthemorrhagic anaemia, severe hydrocephalus internus, multifocal acute tubular necrosis. No more information expected. Follow-up received on 24 Mar 2017. Dog was part of the test group instead of the control group. On 24 Jan 2017 the dog was vaccinated in the clinical trial with Nobivac DHPPI mixed with Nobivac L4 and with experimental vaccine Nobivac Bord-I-Ject in the same time but on different sites. On 07 Feb 2017 the dog was revaccinated with experimental vaccine Nobivac Bord-I-Ject according to the study protocol. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Unknown.] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); 	O - Unclassifiable/unassessable	The investigation is going on.
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00015	Hungary	Animal	Canine/dog	3 Year(s)	24/01/2017	07/03/2017	1	1	0	18/02/2017	Yes, R> Yes	Intrauterine death, Renal tubular disorder, Respiratory failure, Neonatal respiratory disorder	No Data	Case originates from a post authorization study S15358-00. Suspected adverse event. On 24 Jan 2017 the dog was vaccinated as a control in the clinical trial, according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 23 Feb 2017, that the bitch started to show signs of whelping on 18 Feb 2017 at term. As the owner realized it was not able to whelp, he submitted to the dog to caesarean section. During the operation, one, absolutely large, stillborn puppy was extracted. The puppy was submitted to post mortem. Autopsy confirmed that the reason of the stillbirth was multifocal atelectasis, alveolitis with respiratory failure, multifocal acute tubular necrosis. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); 	N - Unlikely	The time between the administration of the product and the onset of the whelping is too long; the result of autopsy
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00016	Hungary	Animal	Canine/dog	20 Month(s)	24/01/2017	07/08/2017	1	1	0	18/02/2017	Yes, R> Not Known	Intrauterine death, NT - chronic (interstitial) pneumonia/pleuropneumonia, Renal tubular disorder, Tracheitis	Not Known	Case originates from a post authorization study S15358-00. Suspected adverse event. On 24 Jan 2017 the dog was vaccinated as a control in the clinical trial, according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 23 Feb 2017, that the bitch whelped on 18 Feb 2017 at term without intervention. One live, strong, healthy puppy and one stillborn puppy. The stillborn puppy was submitted to post mortem. Autopsy confirmed that the reason of the stillbirth was histo-lymphocytic interstitial pneumonia/alveolitis, the intrapulmonary hemorrhages with respiratory failure, tracheitis, multifocal acute tubular necrosis. No more information expected. Follow-up received on 24 Mar 2017. Dog was part of the test group instead of the control group. On 24 Jan 2017 the dog was vaccinated in the clinical trial with Nobivac DHPPI mixed with Nobivac L4 and with experimental vaccine Nobivac Bord-I-Ject in the same time but on different sites. On 07 Feb 2017 the dog was revaccinated with experimental vaccine Nobivac Bord-I-Ject according to the study protocol. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	Yorkshire Terrier	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); 	N - Unlikely	The time between the administration of the product and the date of the whelping is too long; the result of autopsy, complementary information
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00017	Hungary	Animal	Canine/dog	21 Month(s)	07/02/2017	07/03/2017	1	1	0	18/02/2017	Yes, R> Yes	Renal tubular disorder, Anaemia NOS, Liver disorder NOS, Stillbirth, Neonatal respiratory disorder, Circulatory shock	No Data	Case originates from a post authorization study S15358-00. Suspected adverse reaction. On 24 Jan 2017 the dog was vaccinated as a control in the clinical trial, according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 23 Feb 2017, that the bitch whelped on 18 Feb 2017 without intervention. Two live, strong, healthy puppies and one stillborn puppy. The stillborn puppy was submitted to post mortem. Autopsy confirmed that the reason of the stillbirth was fetal diffuse atelectasis with respiratory failure, liver rupture with acute posthemorrhagic anaemia/shock, multifocal acute tubular necrosis. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	Yorkshire Terrier	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (07/02/2017-07/02/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (07/02/2017-07/02/2017); 	N - Unlikely	The time between the administration of the product and the date of the whelping is too long; the result of autopsy
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00018	Hungary	Animal	Canine/dog	8 Year(s)	24/01/2017	30/03/2017	1	1	0	25/02/2017	Yes, R> Yes	Renal tubular disorder, Congenital respiratory tract disorder NOS, Liver disorder NOS, Intrauterine death, Cardiac disorder NOS, Anaemia NOS	No Data	Case originates from a post authorization study S15358-00. Suspected adverse event. On 24 Jan 2017 the dog was vaccinated as a control in the clinical trial according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 01 Mar 2017 that the bitch whelped at term on 25 Feb 2017 with manual intervention for the second puppy. One live, healthy puppy was born, but the second one suffocated in the birth canal during delivery. The puppy was submitted to post mortem. Follow-up on 23 Mar 2017. Autopsy results: Multifocal atelectasis in the lungs, myodegeneration in the heart, liver rupture with haemoperitoneum, multifocal acute renal tubular necrosis. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (24/01/2017-24/01/2017); 	N - Unlikely	The time between the administration of the product and the date of the whelping is too long; the result of autopsy
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00019	Hungary	Animal	Canine/dog	13 - 14 Month(s)	07/02/2017	14/03/2017	1	1	0	26/02/2017	Yes, R> Yes	Intrauterine death	No Data	Case originates from a post authorization study S15358-00. Suspected adverse reaction. On 07 Feb 2017 the dog was vaccinated as a control in the clinical trial according to the S15358-00 Study protocol with Nobivac DHPPI mixed with Nobivac L4. Principal investigator informed Intervet Hungary on 01 Mar 2017 that the bitch whelped at term on 26 Feb 2017 by caesarean section. Four puppies were extracted, 3 of them live, healthy and one stillborn puppy with open cranium. The puppy was submitted to post mortem. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10X1DS 290 Reason: Clinical trial. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 564 Reason: Clinical trial.] [State of health: Good]	Yorkshire Terrier	Not Known	NOBIVAC DHPPI 10X1DS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (07/02/2017-07/02/2017); NOBIVAC L4 10X1DS 564 - 1,N/A/N/A, 24,1 Dose 1 Animal (07/02/2017-07/02/2017); 	O - Unclassifiable/unassessable	The time between the administration of the product and the date of the whelping is too long. The investigation is going on.

NOBIVAC L4	HUN-MERCKMSD-2017-HU-00038	Hungary	Animal	Canine/dog	3 - 4 Year(s)	11/04/2017	31/05/2017	1	1	0	04/05/2017	Yes; R> R>	Heart disorder aggravated,Dystocia,Stillbirth,Lung collapse,Ascites,Dependent oedema,Abnormal necropsy finding,Hydrothorax	No Data	Case originates from a post authorization study S15358-00. Suspected adverse event. On 11 Apr 2017 the dog was vaccinated as a control with Nobvac DHPI mixed with Nobvac L4 in the clinical trial, according to the S15358-00 Study protocol. Principal Investigator informed Intervet Hungary on 10 May 2017 that the bitch whelped in term on 11 May 2017 and delivered at natural way, but later on submitted to caesarian section, because the owner suspected that the bitch cannot deliver a puppy. Both the puppy extracted and the ones born naturally were weak, non-viable. The puppies were submitted to post mortem. No more information expected. Follow-up received on 31-May-2017: Definitive diagnosis by the Pathologist - hypoplastic heart with generalized edema, hydrothorax, ascites, immature lungs with alveolactasis. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 290 Reason: Clinical trial Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 564 Reason: Clinical trial] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPI 10XIDS 290 - 1,N/A/N/A, 24,1 Dose 1 Animal (11/04/2017-11/04/2017) R> R> R> R>	N - Unlikely	referring to the autopsy result and the complementary informations
NOBIVAC L4	HUN-MERCKMSD-2017-HU-00039	Hungary	Animal	Canine/dog	12 Month(s)	11/04/2017	11/08/2017	1	1	0	12/05/2017	Yes; R> R>	Abnormal necropsy finding,Stillbirth	No Data	Case originates from a post authorization study S15358-00. Suspected adverse event. The dog was vaccinated as a member of the test group with Nobvac DHPI mixed with Nobvac L4 on 11 Apr 2017 and with experimental vaccine Nobvac Bord-I-Ject in the same time but on different sites in the clinical trial according to the S15358-00 Study protocol. On 25-Apr-2017 the dog was re-vaccinated with experimental vaccine Nobvac Bord-I-Ject according to the S15358-00 Study protocol. Principal Investigator informed Intervet Hungary on 17 May 2017 that the bitch whelped at term on 12-May-2017, via natural way. Three healthy, viable puppies were born together with one stillborn. Follow-up received on 19 Jun 2017. Autopsy results: Mixed developmental anomalies in the oral cavity with aspiration of the amniotic fluid. No more information expected. Follow-up on 11 Aug 2017: added VeDORA code and changed assessment for Nobvac L4 from O to N [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 290 Reason: Clinical trial Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 564 Reason: Clinical trial] [State of health: Good]	Chihuahua	Not Known	NOBIVAC DHPI 10XIDS 290 - 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (11/04/2017-11/04/2017) R> R> R> R>	N - Unlikely	Due to the time between the administration of the products and the onset of the AE and the necropsy result
NOBIVAC L4	IE-HEIMBVT-08/16	Ireland	Animal	Canine/dog	6 Year(s)	14/01/2016	14/01/2016	1	1	0	14/01/2016	Yes; R> R>	Periorbital oedema, Facial oedema	No Data	Report from vet: oedematous reaction of muzzle and periorcular reaction 2 hours after subcutaneous administration of Nobvac DHPI and Nobvac L4. Reaction was treated with dexamethasone. Animal had previous exposure to products with no adverse events.	Chihuahua	2.7	Nobvac DHPI - N/A/N/A/N/A, N/A/N/A (14/01/2016-14/01/2016) R> R>	A - Probable	Observed reaction compatible with a hypersensitivity reaction following vaccination.
NOBIVAC L4	IE-HEIMBVT-87/17	Ireland	Animal	Canine/dog	5 Month(s)	21/03/2017	23/03/2017	1	1	0	21/03/2017	Yes; R> R>	Cold feeling of extremity, Vomiting	No Data	A five-month-old female Dogo Argentino weighing 24 kg was vaccinated with Nobvac DHPI and Nobvac L4 on 21/03/2017. The dog was given two Prazitel Plus tablets at vaccination. The animal started vomiting four hours later. The animal vomited repeatedly and its extremities were cold. The reaction was treated with Cerenia and Carprive. No more information expected.	Dogo Argentino	24	Nobvac DHPI - N/A/N/A/N/A, N/A/N/A (21/03/2017-21/03/2017) R> R> R> R>	G1 - Inconclusive	There is an association in time between product administration and onset of vomiting. Vomiting is not a known side effect of treatment with Nobvac L4 yet may be indicative of a mild hypersensitivity reaction. Multiple products administered concomitantly. A product association cannot be excluded.
NOBIVAC L4	IE-NLINTVINT-2014-IE-00082	Ireland	Animal	Canine/dog	14 Week(s)	07/03/2014	27/03/2014	1	1	0	07/03/2014	Yes; R> R>	Tachycardia, Circulatory collapse (see also "Neurological" and "Systemic disorders"), Cyanosis	Other	Suspect adverse reaction: Pup vaccinated with Nobvac L4 and Eurican DHPI on 7 Mar 2014. Within 1 minute pup had collapsed and was tachycardic and cyanotic. Vet administered an antihistamine intramuscularly and before vet had time to give adrenaline, pup had recovered. [Reason for use for product: Generic: Brand: Eurican DHPI Reason: Unknown, Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 541 Reason: Unknown.] [State of health: Good]	Miniature Schnauzer	Not Known	Eurican DHPI - N/A/N/A/N/A, N/A/N/A (07/03/2014-07/03/2014) R> R> R> R>	B - Possible	temporal association, vaccine can cause hypersensitivity reactions
NOBIVAC L4	IE-NLINTVINT-2014-IE-00164	Ireland	Animal	Canine/dog	4 - 5 Year(s)	17/06/2014	17/06/2014	1	1	0	17/06/2014	Yes; R> R>	Diarrhoea, Distension of abdomen, Collapse (see also "Cardiovascular" and "Systemic disorders"), Tachypnoea	No Data	Suspect Adverse Reaction: 17 Jun 2014 the dog was vaccinated with Nobvac L4 and Nobvac KC. No other product was administered. Within one hour the dog collapsed, was tachypnoic, had abdominal distension and diarrhoea. The dog was treated with intravenous fluids, anti-histamines and steroids and recovered uneventfully. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination Generic: BB (CANINE) / P1 / B / LV Brand: NOBIVAC KC 5XIDS-5XIDS DL 125 Reason: Unknown.] [State of health: Good]	Akita	51 - 51	NOBIVAC KC - 4,N/A/N/A, 10,4 ml Once 1 Animal (17/06/2014-17/06/2014) R> R> R> R>	B - Possible	
NOBIVAC L4	IE-NLINTVINT-2014-IE-00170	Ireland	Animal	Canine/dog	4 - 4 Month(s)	12/05/2014	25/07/2014	15	1	1	23/06/2014	Yes; R> R>	Death by euthanasia, Lack of efficacy	No Data	Suspect Lack of Expected Efficacy for CPV and Leptospirosis: 14 APR 2014 fifteen 6 week old pups vaccinated with Nobvac DHPI and Nobvac L4. 4 weeks later on 12 MAY 2014 the fifteen pups were vaccinated with Nobvac DHPI and Nobvac L4. Approximately one month later at approximately 4 months old a pup presented with jaundice, vomiting, anaemia and increased kidney values. She is currently being treated with intravenous fluids and antibiotics. Further information expected. Follow up: 25 JUN 2014. The dog did not respond to treatment and was euthanised today. A post mortem report is expected. Follow up: 25 JUL 2014. MAT titres and PCR were negative for leptospirosis. Histopathology did not suggest adenovirus. Pyelonephritis was identified on post mortem, however no primary pathogen was identified. Samples were not suitable to test for immune-mediated disease, therefore this could not be ruled out. No more information expected. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 195 Reason: Unknown.] [State of health: Unknown]	Greyhound	Not Known	NOBIVAC DHPI 10XIDS 195 - 1,N/A/N/A, 10,1 ml Once 1 Animal (12/05/2014-12/05/2014) R> R> R> R>	N - Unlikely	samples were negative for leptospira
NOBIVAC L4	IE-NLINTVINT-2014-IE-00184	Ireland	Animal	Canine/dog	43 Month(s)	09/07/2014	02/06/2015	1	1	1	09/07/2014	No; R> R>	Injection site pain, Death by euthanasia, Anorexia, Lethargy (see also "Central nervous system depression in "Neurological"), Lack of efficacy, Abnormal test result, Hepatic jaundice	Other	SAR and SEE Dog vaccinated on 27 Jun 2014 and 9 Jul with Nobvac DHPI and Nobvac L4 (interval of 12 days is too short). Had pain in neck on 10 Jul and on 16 Jul presented with jaundice, inappetence and lethargy. Abnormal blood samples. Being treated at present with antibiotics, intravenous fluids, analgesics. Follow-up 22 Jul 2014 Dog has recovered. Follow-up 24 Jul 2014. Leptosira MAT, multi-antigen screen revealed Bratislava titers of 1/1000. Suspected field infection with Bratislava serovar. Follow-up: 28 May 2015: Dog presented with anorexia. Ultrasonnd sound scan revealed severe congenital microvascular dysplasia and this has been implicated as the likely cause of illness last July. No more information is expected. Follow-up, 2 Jun 2015: The dog was euthanised due to ongoing poor health. Postmortem was advised but not performed. No more information is expected. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC DHPI 10XIDS 195 Reason: Vaccination against viral illnesses and leptospirosis. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination] [State of health: Good]	Samoyed	Not Known	Nobvac DHPI - 1,N/A/N/A, 24,1 Dose Twice 1 Animal (12 Day(s) 09/07/2014-09/07/2014) R> R> R> R>	B - Possible	
NOBIVAC L4	IE-NLINTVINT-2014-IE-00286	Ireland	Animal	Canine/dog	3 Year(s)	09/10/2014	31/10/2014	1	1	0	10/10/2014	Yes	Behavioural disorder NOS, Epileptic seizure, Hives (see also "Skin")	No Data	Suspected Adverse Reaction: the vet administered the second dose of Nobvac L4 vaccine on 9 Oct 2014. The dog developed hives on the face the day after vaccination. These resolved quickly and without treatment. The dog showed no adverse response to the initial vaccination on 11 Sep 2014. On 19 Oct 2014 the dog displayed behaviour changes for a few hours and this was followed by a short seizure. The dog had previously been diagnosed with idiopathic epilepsy in June 2013 and had started on anti-seizure treatment. Anti-seizure medication was discontinued by the owner in Aug 2013 and the subsequent seizure status is unknown. Further history to follow from the attending vet. Follow-up 31 Oct 2014: The vet has reported no further neurological signs since the case was reported. The vet strongly suspects epilepsy as the cause of clinical signs. No further diagnostics or information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination] [State of health: Good]	Weimaraner	Not Known	Nobvac L4 - 1,N/A/N/A, 10,1 ml Once 1 Animal (09/10/2014-09/10/2014) R>	B - Possible	

NOBIVAC L4	IRL-MERCKMSD-2017-IE-00143	Ireland	Animal	Canine/dog	4 Month(s)	10/03/2017	11/03/2017	1	1	0	11/03/2017	Yes; R-> No	Dullness,Collapse (see also 'Cardio-vascular' and 'Systemic disorders')	Other	Suspected Adverse Reaction: 10 Mar dog presented for second vaccination. No abnormality on clinical exam. Within 24 hours of vaccination with Nobivac DHPPI and Nobivac L4 the dog is collapsed and dull today. The revaccination interval was 2 weeks instead of 4 weeks for Nobivac L4 (Extra-label use). The dog required hospitalization and intravenous fluids. Further information is expected. Follow up: 13 Mar 2017 the dog was treated with intravenous fluids and deadenson and recovered. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 195 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination] [State of health: Good]	Irish Red and White Setter	Not Known	Nobivac DHPPI - 1,N/A,N/A ,10,1 ml (10/03/2017-10/03/2017) R-> Nobivac L4, suspension for injection for dogs - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (15/04/2017-15/04/2017) 	8 - Possible	
NOBIVAC L4	IRL-MERCKMSD-2017-IE-00208	Ireland	Animal	Canine/dog	3 Year(s)	15/04/2017	11/07/2017	1	1	0	28/04/2017	Yes; R-> Yes	Aggression,Shaking,Dilated pupils,Twitching,Seizure NOS,Leucocytosis	No Data	Suspected adverse reaction: On 15 April 2017 a male entire Jack Russell Terrier received the first of its primary course of vaccines using Nobivac DHPPI and L4. On 28 April 2017 the dog presented to another veterinary practice fully conscious, with dilated pupils, aggressive and twitching. The attending vet queried Rabies, idiopathic epilepsy, ingestion of recreational narcotics as possible causes of clinical signs. A blood sample revealed an inflammatory process. Treatment with steroids, intravenous fluids and sedation began. The dog responded well to treatment. Follow up 31st May 2017: The dog has seizures on the 29th and 30th May. Bloods have been taken. Treatment for idiopathic epilepsy has begun. Await further details. Follow up 1st June: Blood report normal. Bile acid stimulation normal. Owner keen to use homeopathy as ongoing treatment. No more information expected. Follow up 28th June: Owner contacted MSD Animal Health to report that the dog was 'transformed' and had 'recovered' after homeopathy treatment. Homeopathy specialist gave a homeopathy L4 vaccination and warns that full moon can have an effect on epileptic patients. Follow up 11th July: Owner called to say that the dog had 'peripheral shakes' last night. No veterinary examination was conducted. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 195 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination] [State of health: Good]	Jack Russell Terrier	Not Known	Nobivac DHPPI - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (15/04/2017-15/04/2017) R-> Nobivac L4, suspension for injection for dogs - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (15/04/2017-15/04/2017) 	O1 - Inconclusive	Insufficient information exists to establish beyond reasonable doubt that there is an alternative explanation to the adverse event that is not related to the VMPS. For example, leucocytosis could be due to inflammation, and swelling/inflammation can persist for up to 14 days post-vaccination. Taking this into account, a product association cannot be discounted but other factors prevent a conclusion being drawn. Consequently, causality O1 (inconclusive) is considered appropriate.
NOBIVAC L4	IRL-MERCKMSD-2017-IE-00242	Ireland	Animal	Canine/dog	3 Year(s)	20/05/2017	31/05/2017	1	1	0	26/05/2017	Yes; R-> Yes	Anaemia NOS,Stranguria,Discoloured urine,Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Inappetence	No Data	Suspect adverse reaction: 3 year old female Chihuahua dog received it's second Nobivac L4 and DHPPI vaccines on the 20th May 2017. On the 26th May the dog presented dull,temperature 39.9 C, inappetent, had difficulty urinating and the urine was dark. On the 30th May the vet performed blood smears and suspected immune-mediated haemolytic anaemia. On 31st May a lungworm snap test was negative. Dog is improving. Await further details. Follow up 2nd June: Vet did not keep any of the original blood sample to send for Coombs test to ascertain the presence of autoimmune disease. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 195 Reason: Vaccination] [State of health: Good]	Chihuahua	3	Nobivac DHPPI - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (20/05/2017-20/05/2017) R-> Nobivac L4 - N/A,N/A,N/A ,N/A,N/A (20/05/2017-20/05/2017) 	O1 - Inconclusive	
NOBIVAC L4	IRL-MERCKMSD-2017-IE-00246	Ireland	Animal	Canine/dog	8.5 Year(s)	31/05/2017	02/06/2017	1	1	0	31/05/2017	Yes; R-> Yes	Weak pulse,Lethargy (see also Central nervous system depression in 'Neurological'),Cold feeling of extremity,Pale mucous membrane,Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Dull	No Data	Suspect adverse reaction: At 3pm on the 31st May 2017 a male Tibetan terrier received its annual booster vaccinations using Nobivac L4 and Nobivac KC. The owner brought the dog for walk later that evening. Upon return the dog became lethargic. The owner brought the dog to the vet and on examination the distal limbs were cold. Pulses were weak. Mucous membranes were pale pink and slightly tacky. Capillary refill time was normal. The dog collapsed on the floor, was dull but conscious. Temperature was 39 degrees Celsius. Intravenous fluid therapy began and the dog recovered overnight. Eating and drinking, urinated and defecated as normal. No diagnostics were performed. No more information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination Generic: BB CANINE / PI LB/LV Brand: NOBIVAC KC SXIDS-SXIDS DIL 125 Reason: Vaccination] [State of health: Good]	Tibetan Terrier	Not Known	Nobivac KC - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (31/05/2017-31/05/2017) R-> Nobivac L4 - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (31/05/2017-31/05/2017) 	8 - Possible	
NOBIVAC L4	IRL-MERCKMSD-2017-IE-00305	Ireland	Animal	Canine/dog	9 Month(s)	19/01/2017	24/08/2017	1	1	0	25/07/2017	Yes; R-> Yes	Lack of efficacy	No Data	Suspect lack of expected efficacy: On 19th January 2017 a male collie crossbred dog was vaccinated using Nobivac DHPPI and L4. On 23rd July the dog became off-form, dehydrated and had haemorrhagic diarrhoea. Body temperature was normal. The patient was treated using intravenous fluids, Buscopan and Synulox. Blood and faeces have been submitted to a laboratory to identify the cause of diarrhoea. Await further report. Follow up 24th August: Dog recovered 28th July. Blood sample showed high level of antibodies against Canine Parvo Virus, Canine Adenovirus and Canine Distemper virus. Faecal sample was not submitted. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 195 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination] [State of health: Good]	Other Canine/dog	Not Known	Nobivac DHPPI - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (19/01/2017-19/01/2017) R-> Nobivac L4, suspension for injection for dogs - 1,N/A,N/A ,24,1 Vial/Ampoule(s) 1 Animal (19/01/2017-19/01/2017) 	N - Unlikely	Diarrhoea is a possible clinical sign associated with leptospirosis; however, analysis of blood sample showed high level of antibodies against canine parvovirus, canine adenovirus and canine distemper virus. Therefore, the observed lack of expected efficacy is believed to be more likely related to a lack of efficacy of the concomitantly administered vaccine.
NOBIVAC L4	IRL-MERCKMSD-2017-IE-00318	Ireland	Animal	Canine/dog	5 Year(s)	03/02/2017	23/08/2017	1	1	0	10/08/2017	Yes; R-> No	Death,lack of efficacy	Unauthorised - administration not frequent enough	Suspect lack of expected efficacy: On 10 Aug 2017, animal developed a swollen nasal planum with little scabs and some bleeding. There was a bloody discharge from both nostrils. Animal was treated with steroids and Synulox injection. Anti-inflammatories were prescribed the following day to reduce nasal swelling. Animal vomited over weekend. On 14 Aug 2017 animals blood profile suggested acute renal failure (elevated Urea, creatinine and Ca) with an elevated white cell count. Leptospirosis or another illness was suspected but not proven. Further information to follow. FOLLOW UP 23 Aug 2017: Animal developed jaundice, haemorrhagic diarrhoea and died on 22 Aug 2017, within 24 hours after developing these signs. FOLLOW UP: 07 SEP 2017 MAT titres for L. canicola, Icterohaemorrhagica and leptospirosis were low at 1/30. Titres for L. bratislava were zero. Titres are not consistent with recent infection. No more information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 195 Reason: Prevention of distemper, hepatitis, parvo and PI infections. Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Prevention of leptospirosis] [State of health: Good]	Labrador Retriever	Not Known	Nobivac DHPPI - 2,N/A,N/A ,10,2 ml 1 Animal (03/02/2017-03/02/2017) R-> Nobivac L4 - 2,N/A,N/A ,10,2 ml 1 Animal (03/02/2017-03/02/2017) 	N - Unlikely	
NOBIVAC L4	IRL-MERCKMSD-2017-IE-00328	Ireland	Animal	Canine/dog	9 - 9 Week(s)	18/08/2017	29/08/2017	7	7	0	20/08/2017	Yes; R-> Yes	Hyperextension	No Data	Suspect Adverse Reaction: 18 Aug 2017 7 week old puppies vaccinated with Nobivac DHPPI and Nobivac L4. Within 2 days one puppy presented with a plantar carpal stance. Over the week all other 6 puppies also presented with hyperextension of the carpus of both forelimbs causing a plantar stance. The bitch had milk fever prior to whelping and the puppies are on a show dog puppy diet. The adequacy of the calcium phosphorus ratio in the diet is unknown. One puppy has been treated with calcium and Vitamin D and has improved. Further information expected. Follow up: 11 Sep 2017 Batch numbers added to products. Further information expected. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC DHPPI 10XIDS 195 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 541 Reason: Vaccination] [State of health: Unknown]	Golden Retriever	Not Known	Nobivac DHPPI - 1,N/A,N/A ,10,1 ml Not applicable 1 Animal (18/08/2017-18/08/2017) R-> Nobivac L4 - 1,N/A,N/A ,10,1 ml Not applicable 1 Animal (18/08/2017-18/08/2017) 	O - Unclassifiable/unassessable	Reaction is unexpected and signs not typical of a reaction following vaccination however further info. awaited.

NOBIVAC L4	IT-ITDGSVA11-IT-2017-443	Italy	Animal	Canine/dog	7 Year(s)	20/09/2017	29/12/2017	1	1	0	20/09/2017	Yes; R> Yes	Sneezing,Reverse sneezing	No Data	Suspected adverse reaction: On 20 September 2017 the dog was brought to visit for vaccine prophylaxis with Nobivac KC and Nobivac L4. 1 minute after vaccination with Nobivac KC, after one sneezing, the dog started with a reverse sneeze, present daily up to 17th October, on some days more often, on other days less, and then until recovery on 25.10.17. The dog has not been given any pharmacological treatment, only honey and the procedure of nose capping to resolve the reverse breath. No other information expected, case closed. [Reason for use for product: Generic: BB CANINE / PI LB/LV Brand: NOBIVAC KC 5X1D5+5X1D5 DIL 360 Reason: Prophylaxis Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1D5 543 Reason: Prophylaxis] [State of health: Good]	Miniature Pinscher	5	NOBIVAC KC 5X1D5+5X1D5 DIL 360 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (20/09/2017-20/09/2017)> NOBIVAC L4 50X1D5 543 - 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (20/09/2017-20/09/2017)> 	No assessment performed	
NOBIVAC L4	IT-ITDGSVA11-IT-2017-549	Italy	Animal	Canine/dog	3 Month(s)	19/12/2017	20/12/2017	1	1	0	19/12/2017	Not Known; > Not Known	Periorbital oedema,Allergic oedema,Lip oedema (see also Skin),Allergic pruritus,Vulvar oedema	Not Known	ABOUT 2 HOURS AFTER VACCINES ADMINISTRATION THE DOG SHOWED ALLERGIC OEDEMA (ANGIOEDEMA) IN THE PERIOCUCLAR, PERILABIAL AND PERIVULVAR AREAS, ASSOCIATED WITH INTENSE PRURITUS. THE DOG WAS TREATED WITH DEXAMETHASONE I.M.; A SECOND ADMINISTRATION OF PARENTERAL CORTICOSTEROIDS WAS MADE 5 HOURS LATER BECAUSE OF PERSISTENT PRURITUS.	Crossbred	2	NOBIVAC CEP - 1,1,N/A, 10,N/A (1 Day(s) 19/12/2017-19/12/2017)> NOBIVAC L4 SUSPENSION FOR INJECTION - 1,1,N/A, 10,N/A (1 Day(s) 19/12/2017-19/12/2017)> 	A - Probable	TWO VACCINES ADMINISTERED. SYMPTOMS MAY BE ATTRIBUTED TO AN ALLERGIC REACTION TO THE VACCINE.
NOBIVAC L4	IT-ITDGSVA11-IT-2017-58	Italy	Animal	Canine/dog	3 Month(s)	24/02/2017	06/03/2017	1	1	0	24/02/2017	Not Known; > Not Known	Application site pain,Crying,Depression	Not Known	Symptoms occurred a couple of hours after inoculation of the vaccines and resolved within 2 hours without any pharmacological treatment.	Miniature Pooodle	2.5	NOBIVAC CEPII - 1,1,N/A, 24,N/A (24/02/2017-24/02/2017)> NOBIVAC L4, suspension for injection for dogs- 1,1,N/A, 24,N/A (24/02/2017-24/02/2017)> 	B - Possible	Two products administered. Possible association in time. Symptoms are consistent with vaccine adverse reactions. Given the concomitant administration of two different vaccines, the potential contribution of the single products is not assessable.
NOBIVAC L4	IT-ITDGSVA11-IT-2017-59	Italy	Animal	Canine/dog	3 Month(s)	01/02/2017	06/03/2017	1	1	0	01/02/2017	Yes; R> Yes	Injection site pain,Injection site granuloma,Depression	No Data	The dog immediately showed a wheal and pain at the injection site; after 1 hour, depression, apathy and incoercible yelping occurred if touched and in case of movements. Onisior was administered and the symptoms have regressed within one hour.	Toy Pooodle	1.8	NOBIVAC CEPII - 1,1,N/A/N/A, 10,N/A (1 Day(s) 01/02/2017-01/02/2017)> NOBIVAC L4 SUSPENSION FOR INJECTION - 1,1,N/A/N/A, 10,N/A (1 Day(s) 01/02/2017-01/02/2017)> 	B - Possible	There is a likely causal relationship between reaction and drug administration but it is difficult to distinguish the vaccine responsible for the SAR. There is time relationship between reaction and drug administration.
NOBIVAC L4	IT-ITDGSVA11-IT-2017-7	Italy	Animal	Canine/dog	3 Month(s)	14/01/2017	24/01/2017	1	1	0	14/01/2017	Yes	Lameness	No Data	4 hours after the administration of the vaccine, the dog showed right front lameness. Symptoms worsened in the following days, until complete lack of support. Orthopedic examination and X-rays revealed thickening of the medullary areas of the humeral region. Differential diagnosis was performed for hematic osteomyelitis and hypertrophic osteopathy. Treatment with Onisior and Synulox since January 16th improved symptoms with pain remission and recovery of the support. Laboratory tests (biochemical analysis, CBC) and urinalysis were within normal ranges.	Australian Shepherd Dog	8	NOBIVAC L4 SUSPENSION FOR INJECTION - 1,N/A/N/A, 10,N/A (1 Day(s) 14/01/2017-14/01/2017)> 	O1 - Inconclusive	No connection with the side of injection. Insufficient available information to draw a conclusion.
NOBIVAC L4	IT-ITDGSVA11-IT-2018-125	Italy	Animal	Canine/dog	4 Year(s)	23/03/2018	09/04/2018	1	1	0	24/03/2018	Not Known; Not Known	Red mucosae,Hyperaemic mucosae	Not Known	TWO VACCINES ADMINISTERED. A 4 YEARS-OLD GERMAN SHEPHERD DOG DEVELOPED HYPERAEMIC MUCOSAE WITH REDDENING AND CONGESTED MUCOUS MEMBRANES OF THE EARS ABOUT 24 DAY AFTER VACCINES ADMINISTRATION AND LASTING FOR ABOUT 3 DAYS. THE ADVERSE REACTION WAS TREATED WITH TOPIC CORTICOSTEROIDS (CORTAVANCE), OUTCOME UNKNOWN (THE VET REPORTS THAT THE ANIMAL OWNER DID NOT BRING THE DOG TO THE VET AMBULATORY FOR FOLLOW-UP VISITS).	German Shepherd Dog	11	NOBIVAC CEPII - 1,1,N/A, 24,N/A (1 Day(s) 23/03/2018-23/03/2018)> NOBIVAC L4 SUSPENSION FOR INJECTION - 1,1,N/A, 24,N/A (1 Day(s) 23/03/2018-23/03/2018)> 	B - Possible	STRICT TEMPORAL ASSOCIATION. POSSIBLE HYPERSENSITIVITY REACTION. TWO DRUGS ADMINISTERED. INSUFFICIENT INFORMATION TO DRAW DEFINITE CONCLUSIONS.
NOBIVAC L4	IT-ITDGSVA11-IT-2018-44	Italy	Animal	Canine/dog	16 Month(s)	30/01/2018	06/03/2018	1	1	0	30/01/2018	Yes; R> Yes	Bloody diarrhoea,Vomiting,Tachypnoea,Shock,Pale mucous membrane,Hypotension,Tachycardia,Wheal,Diarrhoea,itching,Collapse (see also "Cardio-vascular and Systemic disorders")	No Data	The case has been sent by the Authorities - suspected adverse reaction: After 5 minutes the drug administration, the dog collapsed, had shock, hypotension,pale mucous membrane, tachycardia and tachypnoea. After there were vomiting and liquid diarrhoea, after bloody diarrhoea. After 12 hours the dog showed wheals and intense itching. No further information expected, case closed. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC CEPII 50X1D5 360 Reason: Prophylaxis Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1D5 543 Reason: Prophylaxis] [State of health: Unknown]	Chihuahua	3	NOBIVAC CEPII 50X1D5 360 - 1,N/A/N/A, 10,1 ml Not applicable 1 Animal (1 Day(s) 30/01/2018-30/01/2018)> NOBIVAC L4 50X1D5 543 - 1,N/A/N/A, 10,1 ml Not applicable 1 Animal (1 Day(s) 30/01/2018-30/01/2018)> 	B - Possible	Probable hypersensitivity reaction and 2 product administered.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00010	Italy	Animal	Canine/dog	60 Day(s)	18/01/2014	24/01/2014	1	1	0	18/01/2014	Yes; R> Yes	Vomiting,Palpebral oedema,Generalised itching,Lip oedema (see also "Skin")	No Data	SAR: The dog was vaccinated with Nobivac CEP reconstituted with Nobivac L4. 20 minutes after the vaccination the puppy showed palpebral and lip oedema, generalized itching and vomiting. The veterinarian administered betametasone and the dog recovered in some hours. [Reason for use for product: Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1D5 543 Reason: Unknown. Generic: DHP LV Brand: NOBIVAC CEP 50X1D5 360 Reason: Unknown.] [State of health: Unknown]	American Eskimo Dog (Spitz)	Not Known	NOBIVAC CEP 50X1D5 360 - 1,N/A/N/A, 24,1 Dose Once (18/01/2014-18/01/2014)> NOBIVAC L4 10X1D5 543 - 1,N/A/N/A, 24,1 Dose Once (18/01/2014-18/01/2014)> 	B - Possible	Possible hypersensitivity reaction, even if it is difficult to distinguish the vaccine responsible.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00018	Italy	Animal	Canine/dog	4 Year(s)	23/01/2014	20/02/2014	1	1	0	24/01/2014	Yes	Loss of hearing	No Data	SAR: The dog was vaccinated on 23 January 2014. 12 hours after the vaccination, the dog showed bilateral deafness. Reaction ongoing on 30 January 2014. [Reason for use for product: Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1D5 543 Reason: Unknown.] [State of health: Unknown]	Cavalier King Charles Spaniel	9.8	NOBIVAC L4 10X1D5 543 - 1,N/A/N/A, 24,1 Dose Once (23/01/2014-23/01/2014)> 	O - Unclassifiable/unassessable	Onset to sign is 12 hours, even if the reaction is not expected.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00024	Italy	Animal	Canine/dog	2 Month(s)	28/12/2013	07/02/2014	1	1	1	29/12/2013	Yes; R> Yes	Sleepiness - neurological disorder,Drooling,Vomiting,Epilepsy,Muscle tremor,Urinary incontinence,Death by euthanasia,Lethargy (see also Central nervous system depression in "Neurological"),Malaise,Faecal incontinence,Clinic seizure,Respiratory signs,Walking difficulty	No Data	SAR: On December 5, 2013 the puppy was vaccinated with Nobivac Puppy C.F. by the farmer. In mid-December 2013, the puppy was purchased by the reporter and on 28 December 2013 it was vaccinated with Nobivac CEPII and Nobivac L4. The day after, the puppy showed generalized malaise, vomiting, lethargy and sleepiness. In the following days the puppy seems to improve, but on January 1, 2014 the vomiting restarts. The veterinarian administered ranitidine and antibiotic, and again the puppy seems to recover. On January 6, 2014 the dog showed epileptic clonic seizure with muscle tremors. Hyperalation, urinary and faecal incontinence. The owner took the dog to a veterinary clinic, where an ingestion was diagnosed and a laxative administered. In the following days the crisis continued and the owner observed a roundworm in the faeces. So, the veterinarian administered a product against the roundworm, and the puppy eliminated a huge quantity of roundworm. Despite the treatment the epileptic crisis continued so the veterinarian diagnosed a poisoning caused by toxins released by the parasites. Few days later, he puppy was hospitalized in other clinic and a lot of analysis were performed: blood levels, x-ray CT, liquor check, abdominal ultrasound, bile acids, transjugular intrahepatic portosystemic shunt. All the tests were negative (reports not available). The faecal analysis reveal an infestation by Giardia and coccidia, so a treatment with Gardelene, Panacur, antibiotics, Levamisole, Rivotril and cortisone were administered. The owner took the dog to another clinic, and they performed the analysis for Toxoplasmosis, Neospora caninum, Distemper; again, all the tests resulted negative. Despite the treatments, the puppy's condition got worse: it showed ataxia and on February 2, 2014 a respiratory crisis, so the owner decided for the euthanasia [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC CEPII 10X1D5 360 Reason: Unknown. Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1D5 543 Reason: Unknown.] [State of health: Good]	German Shepherd Dog	Not Known	NOBIVAC CEPII 10X1D5 360 - 1,N/A/N/A, 24,1 Dose Once (28/12/2013-28/12/2013)> NOBIVAC L4 10X1D5 543 - 1,N/A/N/A, 24,1 Dose Once (28/12/2013-28/12/2013)> 	O - Unclassifiable/unassessable	The some signs are not fitting into the pharmacological profile. No further investigation are available.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00064	Italy	Animal	Canine/dog	4 Year(s)	05/03/2014	13/08/2014	1	1	0	05/03/2014	No; R> No	Hind limb ataxia	Other	SAR: On 05 MAR 2014, the dog was vaccinated with Nobivac CEPII reconstituted with Nobivac L4. Few hours after the vaccination the dog showed ataxia and weakness of the hind legs. On 19 MAR 2014 the owner refers that the dog has worsened and now is unable to stand and drag the hind legs. The performed analysis (P-rays and blood analysis) have not revealed the cause, shortly a X-ray computed tomography will be performed. Waiting for the results. FOLLOW UP: 29 may 2014: the owner refers that the dog still has not yet recovered the functionality of the hind legs and is under physiotherapy treatment. No analysis results available. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC CEPII 10X1D5 360 Reason: Unknown. Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 10X1D5 543 Reason: Unknown.] [State of health: Good]	Bichon Frise	3.25	NOBIVAC CEPII 10X1D5 360 - 1,N/A/N/A, 24,1 Dose Once (05/03/2014-05/03/2014)> NOBIVAC L4 10X1D5 543 - 1,N/A/N/A, 24,1 Dose Once (05/03/2014-05/03/2014)> 	O - Unclassifiable/unassessable	Inconclusive with the information available.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00067	Italy	Animal	Canine/dog	81 Day(s)	19/03/2014	11/04/2014	1	1	0	19/03/2014	No; R> No	Angioedema,Facial oedema	Other	SAR: On 19 MAR 2014 the dog was vaccinated with Nobovac CEPII and Nobivac L4. 1 hour after the vaccination the dog showed facial angioedema. Administered prednisolone. It recovered in 4 hours. Case closed. [Reason for use for product: Generic: DHPII LV Brand: NOBIVAC CEPII 50X1D5 360 Reason: Unknown. Generic: LEPTO*4[ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1D5 543 Reason: Unknown.] [State of health: Good]	Boxer (German Boxer)	7.5	NOBIVAC CEPII 50X1D5 360 - 1,N/A/N/A, 24,1 Dose Once (19/03/2014-19/03/2014)> NOBIVAC L4 50X1D5 543 - 1,N/A/N/A, 24,1 Dose Once (19/03/2014-19/03/2014)> 	O - Unclassifiable/unassessable	Hypersensitivity reaction to vaccination, but it is not distinguished the product associates to the reaction.

NOBIVAC L4	IT-NLINTVINT-2014-IT-00071	Italy	Animal	Canine/dog	5 Year(s)	06/03/2014	16/04/2014	1	1	1	06/03/2014	Yes	Vomiting, Renal failure, Death, Elevated creatinine, Azotaemia	No Data	SSAR: On 7 Feb 2014 the dog was vaccinated with Nobivac CEPII and Nobivac L4 (annual vaccination). On 6 Mar 2014 the dog was vaccinated with Nobivac L4 (booster). On 13 Mar 2014, 8 days after the vaccination, the dog showed vomiting. The analysis revealed a very high level of creatinine and a poly cystic kidney with chronic renal failure. The dog is under treatment with Ringer lactate solution, specific diet, Neforenal, but he is getting worse. No more information is expected. FOLLOW UP 4 APR 2014 Despite the treatment, the dog died on 28 Mar 2014. The laboratory analysis have revealed high levels of creatinine (6.7 mg/dl and 9.4 mg/ml) and azotemia (130 mg/ml and 121 mg/ml). The veterinarian confirms that the polycystic kidney disease and the chronic renal failure were diagnosed some years ago, six known at the time of vaccination. No further information is expected. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Yorkshire Terrier	Not Known	NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (06/03/2014-06/03/2014) 	B - Possible	Associative with vaccination, even if not all clinical signs are specific and not investigation performed pre and post vaccination.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00072	Italy	Animal	Canine/dog	7 Year(s)	11/02/2014	16/04/2014	1	1	1	21/02/2014	Yes	Prostration, Liver failure, Swollen lymph node, Leucocytosis, Tachycardia, Net the rash (see also "Skin"), Skin swelling, Death, Anorexia, Hyperthermia	No Data	SSAR: On 11 Feb 2014 the dog was vaccinated with Nobivac L4. Few days after the vaccination (about 10) the dog showed a skin rash, so the veterinarian treated it with a cortisone ointment. On 23 Feb 2014 all the analysis (not specified) performed on the blood of both the vaccinated dog and its sister (not specified if vaccinated as well) were normal. On 12 Mar 2014 the dog has been hospitalized because a severe skin rash, prostration and anorexia. The owner refers that, based on the analysis performed, the health condition of the dog was "serious". On 26 Mar 2014 the blood analysis of both dogs revealed a very high level of Gamma-glutamyl transferase. The attending veterinarian has been contacted, waiting for a complete report. Follow-up 7 Apr 2014. Report from the attending veterinarian with more specific details than reported by owner: 10 days after the vaccination the dog showed diffuse flushed skin swellings. On 12 Mar 2014 the dog was hospitalized because of depression and hyperthermia. The laboratory tests revealed increase of bilirubin, transaminases, C-reactive protein and leukocytes. A echography: reactive lymphoid hyperplasia (in abdomen), hepatitis and cholestasis. Subsequently, onset of ventricular tachycardia from ischemic damage. On 21 Mar 2014, decrease of bilirubin, still present tachycardia, anorexia, depression. Suspected immune-mediated reaction. On 6 Apr 2014, despite the treatment, the dog died. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Unknown]	Other Canine/dog	9	NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (11/02/2014-11/02/2014) 	O - Unclassifiable/unassessable	The laboratory test previously the vaccination was good, but the time to onset is very long for a dermatological hypersensitivity reaction. Suspected immune-mediated reaction. Autopsy test is ongoing.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00106	Italy	Animal	Canine/dog	2 Year(s)	09/05/2014	13/08/2014	1	1	0	12/05/2014	No, =B R> =No	Muscle pain, Muscle stiffness, Muscle tremor, Hyperthermia, Depression	Other	Suspected adverse reaction: On 9 May 2014 the dog has been vaccinated with Nobivac CEPII+Nobivac L4. 3 days after the vaccination, the dog showed mild hyperthermia, tremors, mild depression, stiff neck with pain. The dog has been visited by another veterinarian that diagnosed a meningitis and administered cortisone, antipyretics and sulfonamides. On 16 May 2014 the dog is clearly improving, nevertheless the veterinarian suggests a X-ray computed tomography. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPII 50X1DS 360 Reason: Unknown. Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Beagle	20	NOBIVAC CEPII 50X1DS 360 - 1,N/A/N/A, 2,4,1 Dose Once (09/05/2014-09/05/2014) =NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (09/05/2014-09/05/2014) 	O - Unclassifiable/unassessable	Unclassifiable for available information.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00141	Italy	Animal	Canine/dog	12 Month(s)	21/06/2014	12/07/2014	1	1	0	21/06/2014	No, =B R> =No	Facial swelling (see also "Skin"), Collapse (see also "Cardio-vascular" and "Systemic disorders"), Reddening of the skin, Drooling, Diarrhoea, Vomiting, Angioedema	Other	Suspected adverse reaction: On 21 June 2014 the veterinarian vaccinated the dog with Nobivac CEPII diluted in Nobivac L4. 30 minutes after the vaccination the dog showed: vomiting, diarrhoea, drooling and collapse. The veterinarian administered IV fluid therapy and adrenaline. The signs disappeared in 15-20 minutes, except for the drooling, 2 hours after, the drooling resolved but some swelling and reddening (angioedema) on face and the chin, that disappeared after some hours following cortisone therapy. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPII 50X1DS 360 Reason: Prophylaxis. Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Unknown]	Chihuahua	4	NOBIVAC CEPII 50X1DS 360 - 1,N/A/N/A, 2,4,1 Dose Once (21/06/2014-21/06/2014) =NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (21/06/2014-21/06/2014) 	B - Possible	There is a strict causal relationship between reaction and drug (possible hypersensitivity reaction), but is difficult distinguish the product responsible.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00163	Italy	Animal	Canine/dog	3 Month(s)	14/07/2014	26/02/2015	1	1	0	14/07/2014	No, =B R> =No	Swelling NOS	Other	Suspected adverse reaction: After 1 hour after the administration of the two vaccines, the dog showed a generalized oedema. The dog was treated with a corticosteroid and recovered in 3 hours. 30 January 2015. Follow-up No other information received. Case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPII 50X1DS 360 Reason: Unknown. Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Basset Hound	Not Known	NOBIVAC CEPII 50X1DS 360 - 1,N/A/N/A, 2,4,1 Dose Once 1 Animal (14/07/2014-14/07/2014) =NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once 1 Animal (14/07/2014-14/07/2014) 	B - Possible	Possible hypersensitivity reaction.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00167	Italy	Animal	Canine/dog	10 Year(s)	01/06/2014	12/08/2014	1	1	0	01/06/2014	Yes	Keratitis, Ocular discharge, Autoimmune disorder NOS	No Data	Suspected adverse reaction: At the beginning of June 2014, the reporter (veterinarian) vaccinated her dog (mixed pit-bull) with Nobivac L4, as booster vaccination after the first one (3 weeks before) 3-4 days after the vaccination the dog showed a copious bilateral transparent ocular discharge, and brownish lesions on the lateral sides of the eyes (blood vessels). Spreading the lesions to the entire surface of the eyes, the dog was visited by an ophthalmologist who diagnosed a progressive chronic superficial keratitis (pannus) due to an autoimmune reaction caused by the vaccination. The dog is under treatment with cyclosporine and corticosteroids (eye drops), that keep the lesions under control, but if the treatment is stopped, in few days the lesions appear again. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Crossbred	18	NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (01/06/2014-01/06/2014) 	O - Unclassifiable/unassessable	Some cases the Keratitis is related with the vaccination, but is not proven it.
NOBIVAC L4	IT-NLINTVINT-2014-IT-00180	Italy	Animal	Canine/dog	2 Year(s)	09/05/2014	12/08/2014	1	1	0	12/05/2014	No, =B R> =No	Muscle stiffness, Meningitis, Hyperthermia	Other	Suspected adverse reaction: On 9 May 2014 the veterinarian vaccinated a Beagle with Nobivac CEPII and Nobivac L4. On 12 May 2014, the dog showed mild neck stiffness and hyperthermia. A colleague of the reporter, who visited the dog, diagnosed a meningitis (not confirmed by laboratory analysis) and administered antipyretics, sulfonamides and cortisone. On 15 May 2014 the dog recovered. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPII 50X1DS 360 Reason: Unknown. Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Beagle	20	NOBIVAC CEPII 50X1DS 360 - 1,N/A/N/A, 2,4,1 Dose Once (09/05/2014-09/05/2014) =NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (09/05/2014-09/05/2014) 	O - Unclassifiable/unassessable	Insufficient information for conclusive assessment
NOBIVAC L4	IT-NLINTVINT-2014-IT-00226	Italy	Animal	Canine/dog	4 Year(s)	07/09/2014	30/12/2014	1	1	1	10/09/2014	Yes	Thrombocytopenia, Haemorrhage NOS, Death, Haemolytic anaemia	No Data	Suspected adverse reaction: On 7 September 2014 the veterinarian vaccinated the dog with Nobivac L4. The reaction occurred 3 days after the vaccination, on 10 September 2014. The report, also submitted to the Italian Ministry of Health, doesn't describe the observed signs and only states: Symptom 1: Haemorrhage Symptom 2: Haemolytic anaemia Symptom 3: Thrombocytopenia Despite the treatment with K1 Vitamin, amoxicillin-clavulanic acid and fluid therapy the dog died after 24 hours of cerebral haemorrhage. Case closed. 31 October 2014 FOLLOW UP: The laboratory analysis (PCR on urine sample) have showed the following residues: Coumatetralyl, Bromadolone, Brodifacoum. This means that the dog died because of poisoning by anticoagulant rodenticides [Reason for use for product: Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Unknown]	English Setter	20	NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 10,1 ml Once (07/09/2014-07/09/2014) 	N - Unlikely	The dog died for poisoning by rodenticides
NOBIVAC L4	IT-NLINTVINT-2014-IT-00264	Italy	Animal	Canine/dog	3 Year(s)	12/10/2014	28/10/2014	1	1	0	14/10/2014	No, =B R> =No	Anaemia NOS, Pale mucous membrane, Anorexia, Apathy	Other	Suspected adverse reaction: On 12 October 2014, the veterinarian vaccinated the dog with Nobivac CEPII diluted in Nobivac L4. 36 hours after the vaccination the dog showed severe apathy, anorexia and pale mucous membranes. 5 days after vaccination the veterinarian performed blood analysis (CBC) that revealed a severe anaemia (red blood cells 1.5 millions, haemoglobin 8 g/100ml, hematocrit 15%), so the veterinarian decided for a blood transfusion. Further diagnostic exams did not reveal any other cause for the anaemia, that 3 days later was still severe. The dog is under treatment with Ronaxon, metyprednisolone, azathioprine. Today 28 October 2014 the dog is slightly improved but the conditions are still severe. No further information expected, case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPII 50X1DS 360 Reason: Unknown. Generic: LEPTO*4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Crossbred	3.5	NOBIVAC CEPII 50X1DS 360 - 1,N/A/N/A, 2,4,1 Dose Once (12/10/2014-12/10/2014) =NOBIVAC L4 50X1DS 543 - 1,N/A/N/A, 2,4,1 Dose Once (12/10/2014-12/10/2014) 	O - Unclassifiable/unassessable	

NOBIVAC L4	IT-NLINTVINT-2014-IT-00285	Italy	Animal	Canine/dog	19 Week(s)	26/09/2014	01/12/2014	1	1	0	27/10/2014	Yes	Anorexia,Lack of efficacy,Weight loss,Dehydration,Elevated renal parameters	No Data	SLEE On 18 August 2014 the veterinarian vaccinated the 3-months-old puppy with Nobvac CEPI and Nobvac L4, and re-vaccinated the puppy with Nobvac L4 on 26 September 2014 (19 weeks of age). On 27 October 2014 the veterinarian visited the dog, that was anorexic, dehydrated and emaciated. On 29 October 2014 blood analysis revealed an increase in renal parameters (not specified) and the following titres: L. tarassovi: 1:1006 L. kirschneri serogroup Grippotyphosa: 1:200 Negative titres (not quantified) for L. interrogans serogroup Canicola, L. interrogans serogroup Icterohaemorrhagiae and L. interrogans serogroup Australis. The dog was administered with amoxicillin and clavulanic acid iv and he significantly improved within 48 hours. The treatment continued for 2 consecutive weeks, now the dog is under treatment with tetraacyclines. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) kb Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	German Short-haired Pointing Dog	Not Known	NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (26/09/2014-26/09/2014) 	B - Possible	
NOBIVAC L4	IT-NLINTVINT-2014-IT-00290	Italy	Animal	Canine/dog	6 Year(s)	25/11/2014	03/12/2014	1	1	0	25/11/2014	Yes	Lateral neck deviation,Reduced responses,Reluctant to move,Hind limb ataxia,Rigidity of limbs	No Data	Suspected adverse reaction: On 25 November 2014 the veterinarian vaccinated the dog with Nobvac L4 12 hours later, at home, the dog showed lethargy (it did not respond to calls and remained sitting in the doghouse), stimulated by the owner, the dog tried to stand but with great difficulty, and had hind limbs rigid and dragged, stiff and turned right neck. The reaction disappeared within 30 minutes without any treatment. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Jack Russell Terrier	11	NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (25/11/2014-25/11/2014) 	B - Possible	Close temporal association, possible hypersensitivity reaction.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00015	Italy	Animal	Canine/dog	9 Year(s)	26/01/2015	10/06/2015	1	1	0	28/01/2015	No R> No	Lethargy (see also Central nervous system depression in "Neurological"),Anorexia,Jaundice,H aemolytic anaemia,Hypothermia	Other	Suspected adverse reaction: On 26 Jan 2015 the veterinarian vaccinated the dog with Nobvac CEPI and Nobvac L4 (mixed). On 28 Jan 2015, the dog showed lethargy, anorexia, hyperthermia and sub-jaundice. The blood count has been carried out, waiting for the report. The veterinarian diagnosed haemolytic anaemia and administered prednisolone, outcome unknown. Waiting for more information. FOLLOW UP 15 MAR 2015: The dog gradually recovered in the following days. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown. Generic: DHPI LV Brand: NOBIVAC CEPI 50X1DS 360 Reason: Unknown.] [State of health: Good]	Crossbred	13	NOBIVAC CEPI 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose Once (26/01/2015-26/01/2015) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (26/01/2015-26/01/2015) 	O - Unclassifiable/unassessable	Temporal association with the vaccination. Two products administered. No information about other concomitant treatment. Awaiting results of further investigation.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00051	Italy	Animal	Canine/dog	2 Year(s)	20/04/2015	20/05/2015	1	1	0	23/04/2015	Not known, > Yes	Angioedema,Facial oedema	No Data	Suspected adverse reaction: On 20 April 2015, the veterinarian vaccinated the dog with Nobvac L4, and administered Guardian, also, 2 days later (23 April) the dog showed facial angioedema. The veterinarian administered desametasone by intravenous way, but after 90 minutes the dog was getting worse, so again he administered desametasone by intravenous way. After 90 minutes the dog was improving, and he fully recovered the day after. No other signs described. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 543 Reason: Unknown. Generic: BR: GUARDIAN Reason: Unknown.] [State of health: Unknown]	Crossbred	5.8	GUARDIAN SR INJECTABLE - N/A,N/A,N/A,N/A,N/A (20/04/2015-20/04/2015) NOBIVAC L4 10X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (20/04/2015-20/04/2015) 	B - Possible	Signs reported could be the result of a hypersensitivity reaction but two products were administered.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00104	Italy	Animal	Canine/dog	11 Year(s)	04/06/2015	10/10/2015	1	1	0	06/06/2015	Yes	Haemolytic anaemia,Leucocytosis,Lymphopenia,Neutrophilia,Elevated liver enzymes,Decreased red blood cell count,Decreased haemoglobin,Elevated creatine-kinase (CK),Elevated C-reactive protein,Elevated lactic acid dehydrogenase (LDH)	No Data	Suspected adverse reaction: On 4 Jun 2015 the veterinarian vaccinated the dog with Nobvac L4. 2 days after the vaccination the veterinarian observed hemolytic anemia (no information about the method of diagnosis) that was reported to endanger the life of the animal. The dog is still under treatment with prednisolone 1 mg/kg b.w./bid, doxycycline 10 mg/kg b.w. and fluid therapy. Waiting for further information. Follow-up 18 Jun 2015: The veterinarian performed the blood analysis but not a COOMBS test. The analysis, dated 11 June 2015, show: hemolytic anemia (decreased levels of RBC, hemoglobin and hematocrit), but also high levels of C-reactive protein, creatine kinase, lactate dehydrogenase, alkaline phosphatase, lymphopenia, neutrophilia and leukocytosis. Therefore, the diagnosis of immune mediated anemia cannot be confirmed, and there is the possibility that an inflammatory process was in progress at the time of vaccination. Waiting for outcome from the veterinarian. FOLLOW UP 10 October 2015: no further information received, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 543 Reason: Prophylaxis] [State of health: Fair]	Crossbred	13	NOBIVAC L4 10X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (04/06/2015-04/06/2015) 	O1 - Inconclusive	Association in time, but can't be excluded other causes.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00185	Italy	Animal	Canine/dog	3 Year(s)	23/05/2015	28/09/2015	1	1	0	23/05/2015	Yes Yes	Facial oedema,Angioedema	No Data	Suspected adverse reaction: On 23 May 2015 the veterinarian vaccinated the dog with Nobvac CEPI diluted with Nobvac L4. Some time after the vaccination (not specified), but in the same day of the vaccination) the dog showed facial angioedema. The veterinarian administered dexamethasone and methylprednisolone and the dog recovered in 15 minutes. No further information expected, case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC CEPI 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Unknown]	Crossbred	6.3	NOBIVAC CEPI 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose Once (23/05/2015-23/05/2015) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (23/05/2015-23/05/2015) 	B - Possible	Probable allergic reaction, even if two products administered.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00189	Italy	Animal	Canine/dog	3 Month(s)	30/09/2015	01/10/2015	1	1	0	30/09/2015	Not known, > Not known	Ear flap oedema,Palpebral oedema,Local swelling (not application site)	Not Known	Suspected adverse reaction: On 30 Sep 2015 the veterinarian has vaccinated the dog with Nobvac CEPI and Nobvac L4. After 1.5 hour the dog showed palpebral edema, retroauricular edema, swelling on trunk and extremities. The veterinarian administered dexamethasone i.v. (0.5 mg/kg) and the dog recovered in 4 hours. No further information expected, case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC CEPI 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Good]	Staffordshire Bull Terrier	6	NOBIVAC CEPI 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose Once (30/09/2015-30/09/2015) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (30/09/2015-30/09/2015) 	B - Possible	Possible allergic reaction.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00191	Italy	Animal	Canine/dog	22 Month(s)	30/09/2014	22/10/2015	1	1	0	26/09/2015	No	Lack of efficacy	Other	Suspected lack of expected efficacy: On 30 Sep 2015 the dog was vaccinated with Nobvac L4 (booster vaccination, first vaccination 5 months before). On 26 Sep 2015 the dog showed vomiting, lethargy and jaundice. The laboratory analysis resulted positive for Leptospira australis/bratislava, Leptospira grippotyphosa/grippotyphosa, Leptospira icterohaemorrhagiae/copenhageni, Leptospira pomona/pomona. After the administration of amoxicillin, clavulanic acid and supportive therapy the dog recovered. Extra-label use: the booster vaccination was administered 5 weeks after the first vaccination instead of 4 weeks. FOLLOW UP 22 October 2015: modified incorrect data: Suspected lack of expected efficacy: On 30 Sep 2014 the dog was vaccinated with Nobvac L4 (booster vaccination, first vaccination 5 weeks before). On 26 Sep 2015 the dog showed vomiting, lethargy and jaundice. The laboratory analysis resulted positive for Leptospira australis/bratislava (1/6400), Leptospira grippotyphosa/grippotyphosa (1/2000), Leptospira icterohaemorrhagiae/copenhageni (1/2000), Leptospira pomona/pomona (1/1600). After the administration of amoxicillin, clavulanic acid and supportive therapy the dog recovered. Extra-label use: the booster vaccination was administered 5 weeks after the first vaccination instead of 4 weeks. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	American Staffordshire Terrier	26	NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (30/09/2014-30/09/2014) 	B - Possible	Possible lack efficacy.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00192	Italy	Animal	Canine/dog	35 Day(s)	01/01/2015	06/10/2015	6	1	1	01/01/2015	No, R> No	Leucopenia,Vomiting,Jaundice,Death,Lethargy (see also Central nervous system depression in "Neurological"),Dehydration,Trethess	Other	Suspected adverse reaction and extra-label use: The veterinarian vaccinated 6 puppies at 5 weeks of age with Nobvac CEPI and Nobvac L4. 4 hours after the vaccination one puppy showed tiredness and vomiting. 48 hours after the vaccination the veterinarian visited the dog and observed: jaundice, dehydration, lethargy. The blood analysis revealed 24.000 µl white blood cells. The dog died the day after. 3 days after the vaccination. The minimum age recommended for vaccination is 12 weeks for Nobvac CEPI and 6 weeks for Nobvac L4. No further information expected, case closed. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC CEPI 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50X1DS 543 Reason: Unknown.] [State of health: Unknown]	Other Canine/dog	7	NOBIVAC CEPI 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose Once (01/01/2015-01/01/2015) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (01/01/2015-01/01/2015) 	O - Unclassifiable/unassessable	Insufficient information for a conclusive assessment.
NOBIVAC L4	IT-NLINTVINT-2015-IT-00194	Italy	Animal	Canine/dog	2 Year(s)	01/01/2015	06/10/2015	2	1	0	01/01/2015	Not known, > Not known	Scleritis	Not Known	Suspected adverse reaction: The veterinarian vaccinated 2 dogs with Nobvac CEPI and Nobvac L4. 1 month later, she administered the booster vaccination. 5-6 days after the vaccination, one of the dogs showed clouding of the eyes, so the owner brought the dog to the ophthalmologist who diagnosed an autoimmune episcleritis. Reporting vet worried about the dog's eye condition. Waiting for the complete report from the veterinarian. [Reason for use for product: Generic: DHPI LV Brand: NOBIVAC CEPI 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 543 Reason: Prophylaxis] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC CEPI 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose Once (01/01/2015-01/01/2015) NOBIVAC L4 10X1DS 543 - 1,N/A,N/A,2,4,1 Dose Once (01/01/2015-01/01/2015) 	O - Unclassifiable/unassessable	Waiting for further information.

NOBIVAC L4	ITA-MERCKMSD-2016-IT-00001	Italy	Animal	Canine/dog	2.5 Month(s)	07/01/2016	29/01/2016	1	1	1	07/01/2016	No R> Yes	Pale mucous membrane,Collapse (see also 'Cardio-vascular' and 'Systemic disorders'),Decubitus	No Data	Suspected adverse reaction: On 1 December 2015 the puppy was vaccinated by the breeder with Vanguard 7. On 7 January 2016 the veterinarian visited the 10-weeks puppy and vaccinated him with Nobivac CEPPi diluted in Nobivac L4 (ELU for CEPPi; dog should be at least 12w of age). 3 Minutes after the vaccination the dog collapsed, fell in lateral decubitus and showed gray mucous membranes. The veterinarian administered methylprednisolone hemisuccinate 1 mg/kg b.w. by intravenous way. Thereafter the dog was administered with fluid therapy, methylprednisolone hemisuccinate and ranitidine. Within 20 minutes the dog regained consciousness, after 1 hour the dog fully recovered, alert and responsive, with rosy mucous membrane. No further information expected, case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC CEPPi 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Maltese	1.07	NOBIVAC CEPPi 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose (07/01/2016-07/01/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose (07/01/2016-07/01/2016) 	B - Possible	Possible anaphylactic shock, even if two products administered.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00005	Italy	Animal	Canine/dog	1 Year(s)	03/06/2015	19/01/2016	1	1	1	11/01/2016	No R> No	Death,Lack of efficacy	Other	Suspected lack of expected efficacy: on 29 April 2015 the dog (born in January 2015) was vaccinated with Nobivac CEP diluted in Nobivac L4, and revaccinated 5 weeks later (ELU for Nobivac L4, the second vaccination should be performed 4 weeks after the first one) with the same vaccines. On 11 January 2016 the dog was visited by the veterinarian because of hyperthermia, and the owner referred about one episode of vomiting and diarrhoea in the previous days. The veterinarian started a treatment program with Ketoprofene and Enrofloxacin. The day after (12 January 2015), the therapy was stopped. On 13 January 2015 the puppy was administered with fluid therapy and Samy. The same day, the puppy showed muscle tremors, ataxia, rolling, orange urine, so the veterinarian administered Doxycycline. Afterwards, the dog showed obvious jaundice and seizure, and died on 14 January, during the night. The veterinary suspected Leptospirosis. The analysis on blood revealed high levels of creatine phosphokinase, transaminase, bilirubin, urea, C-reactive protein. The analysis on urine revealed the presence of high levels of bilirubin,protein, creatinine. The analysis to confirm the Leptospirosis infection are still running. Waiting for the results of the analysis. [Reason for use for product: Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis Generic: DHP LV Brand: NOBIVAC CEP 50X1DS 360 Reason: Prophylaxis] [State of health: Fair]	Chihuahua	2.8	NOBIVAC CEP 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose 1 Animal (03/06/2015-03/06/2015) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose 1 Animal (03/06/2015-03/06/2015) 	O - Unclassifiable/unassessable	Waiting for the laboratory analysis.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00018	Italy	Animal	Canine/dog	3 Month(s)	19/02/2016	07/04/2016	1	1	1	20/02/2016	Yes R> Yes	Distension of abdomen,Death,Appetite loss	No Data	Suspected adverse reaction: On 31 January 2016 the veterinarian vaccinated 5 puppies (same litter) with Nobivac Puppy CP, and revaccinated them 20 days later (19 February 2016) with Nobivac CEPPi and Nobivac L4. The veterinarian refers that concurrently to the vaccination the owner weaned the puppies. The day after the vaccination, in the evening, one puppy showed anorexia and distension of the abdomen, and died during the night. The veterinarian refers that previously the puppy had been treated with antibiotics for respiratory problems (not described) and the veterinarian vaccinated the dog 12 days after the end of the antibiotic therapy. Waiting for the report. FOLLOW UP 22 MARCH 2016: The veterinarian has decided not to proceed with reporting, so no further information will be available. Case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC CEPPi 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Chihuahua	0.9	NOBIVAC CEPPi 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose 1 Animal (19/02/2016-19/02/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose 1 Animal (19/02/2016-19/02/2016) 	B - Possible	Two products administered. The vaccinations could have triggered off the reaction.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00032	Italy	Animal	Canine/dog	5 Year(s)	16/03/2016	30/03/2016	1	1	0	16/03/2016	Yes R> Yes	Dull,Dyspnoea	No Data	Suspected adverse reaction: on 16 march 2016, at 5 p.m., the veterinarian vaccinated the dog with Nobivac CEPPi and Nobivac L4. At 9 p.m., at home, the dog showed dyspnoea and mild dullness. The dog recovered in 5 minutes, without any treatment. No further information expected, case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC CEPPi 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Corso Dog	53	NOBIVAC CEPPi 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose (16/03/2016-16/03/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose (16/03/2016-16/03/2016) 	B - Possible	Temporal association with the vaccination, even if the signs are non specific and other equally plausible explanation possible.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00053	Italy	Animal	Canine/dog	10 Month(s)	31/03/2016	14/06/2016	1	1	0	31/03/2016	Yes R> B	Inappropriate defecation/Inappropriate urination,Vomiting,Collapse (see also 'Cardio-vascular' and 'Systemic disorders')	No Data	Suspected adverse reaction: on 31 March 2016 the veterinarian vaccinated the dog with Nobivac CEPPi diluted with Nobivac L4. About 15 minutes after the vaccination the dog showed vomiting and repeatedly defecated and urinated, finally he collapsed. The veterinarian administered Doxanilone 1ml and glucose solution 5% 50 ml. In a short time the dog improved and fully recovered the following day. No further information expected, case closed. 02 Jun 2016: Duplicate breed label fix installed in PV-Works; Breed is corrected to match the appropriate species. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC CEPPi 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Maltese	2.1	NOBIVAC CEPPi 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose (31/03/2016-31/03/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose (31/03/2016-31/03/2016) 	B - Possible	Possible hypersensitivity reaction.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00060	Italy	Animal	Canine/dog	4.5 Month(s)	29/03/2016	20/09/2016	1	1	1	12/04/2016	Yes R> Yes	Swelling NCS,Injection site swelling,Death	No Data	Suspected adverse reaction: on 29 March 2016 the veterinarian vaccinated the dog with Nobivac CEPPi diluted in Nobivac L4. 3-4 days after the vaccination the owner applied Advocate spot-on. On 12 April 2016 the dog showed a swelling at the injection site at the right shoulder blade (size about 6 cm) so the owner applied some compresses with water and salt. On 12 April 2016 the veterinarian visited the dog and administered an anti-inflammatory by oral way. Afterwards the veterinarian was informed by the owner that the swelling was extended to the entire right front paw and died on 15 April 2016. Waiting for the results of the autopsy. FOLLOW UP 20 September 2016: no further information received, case closed. [Reason for use for product: Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis Generic: DHPPi LV Brand: NOBIVAC CEPPi 50X1DS 360 Reason: Prophylaxis] [State of health: Good]	Crossbred	9	NOBIVAC CEPPi 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose (29/03/2016-29/03/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose (29/03/2016-29/03/2016) 	B - Possible	Possible even if autopsy could be clarify all signs.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00076	Italy	Animal	Canine/dog	8 Year(s)	04/05/2016	06/05/2016	1	1	1	04/05/2016	Yes R> Yes Yes	Death,Hyperthermia,Depression,Acid hena,Hypoglycaemia,Low platelet count,Coma	No Data	Suspected adverse reaction: on 4 may 2016 the dog was vaccinated with Nobivac CEP and Nobivac L4 subcutaneously, and with Nobivac KC intranasally. 8 hours later, the dog showed depression and asthenia rapidly worsening to a pre-comatose status with hyperthermia, hypoglycaemia, decrease in platelets value. The dog was treated with Ringer solution, glucose solution and deacidron 1.5 ml, and died after 2 days. The post-mortem examination is running. No further information expected, case closed. [Reason for use for product: Generic: BB CANINE / PI LB/LV Brand: NOBIVAC KC 5X1DS+5X1DS DIL 360 Reason: Prophylaxis Generic: DHP LV Brand: NOBIVAC CEP 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Border Collie	25	NOBIVAC CEP 50X1DS 360 - 1,N/A,N/A,2,4,1 Dose (04/05/2016-04/05/2016) NOBIVAC KC 5X1DS+5X1DS DIL 360 - 1,N/A,N/A,2,4,1 Dose (04/05/2016-04/05/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose (04/05/2016-04/05/2016) 	O - Unclassifiable/unassessable	Associative connection in time, even if the information are inconclusive.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00096	Italy	Animal	Canine/dog	6 Month(s)	08/02/2016	22/07/2016	1	1	0	08/05/2016	Yes R> Yes	Lack of efficacy	No Data	Suspected lack of expected efficacy: on 8 February 2016 the veterinarian vaccinated the dog with Nobivac CEPPi and Nobivac L4. The dog was previously vaccinated with another product (competitor) but neither the product's name nor the vaccination date (and booster) is known. About 3 months after the vaccination, the dog showed incredible vomiting and rare episodes of diarrhea. The dog was treated with fluid therapy, antiemetics, antibiotics, gastroprotective products and recovered after 10 days. The laboratory analysis (PCR) resulted positive for Parvovirus, strain typing is running. Waiting for the results of the analysis. 22JULY 2016 FOLLOW UP: No further information received, case closed. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC CEPPi 50X1DS 360 Reason: Prophylaxis Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Jack Russell Terrier	6.3	NOBIVAC CEPPi 50X1DS 360 - 1,N/A,N/A,10,1 ml (08/02/2016-08/02/2016) NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,10,1 ml (08/02/2016-08/02/2016) 	B - Possible	
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00109	Italy	Animal	Canine/dog	14 Year(s)	24/05/2016	06/06/2016	1	1	0	25/05/2016	Yes	Acute renal failure,Hypoglycaemia,Elevated creatinine,Elevated ALT,Iraemia,Anorexia,Vomiting	No Data	Suspected severe adverse reaction: on 24 May 2016 the veterinarian vaccinated the dog with Nobivac L4 (booster vaccination, first vaccination administered one month before, with Nobivac CEP,without any problem). The dog has a mitral regurgitation (well compensated without any treatment) and is affected by leishmaniasis (no treatment in place). 18 hours after the vaccination, the dog showed vomiting and anorexia. On 27 May 2016 the veterinarian performed the blood analysis, that revealed high levels of glucose, creatinine, BUN, transaminase (ALT). The veterinarian diagnosed an acute kidney failure and administered prednisolone, fluid therapy, furosemide and doxycycline. From 4 June 2016, the doxycycline has been replaced with Regep (Benzylpenicillin procaine and dihydrostreptomycin sulfate). The dog is still under treatment, his condition is unchanged. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4ICT,CAN,GRIPP,BRAT] KB Brand: NOBIVAC L4 50X1DS 543 Reason: Prophylaxis] [State of health: Good]	Crossbred	7	NOBIVAC L4 50X1DS 543 - 1,N/A,N/A,2,4,1 Dose (24/05/2016-24/05/2016) 	B - Possible	Temporal association and signs with vaccination.

NOBIVAC L4	ITA-MERCKMSD-2016-IT-00123	Italy	Animal	Canine/dog	2.5 Year(s)	26/05/2016	09/04/2018	1	1	1	05/06/2016	Yes	Leucocytosis,Vomiting,Hepatitis,Iau ndic,Death,Appetite loss,Malaise,Disorder of red blood cell NOS,Pancreatitis,Hyperphosphataemia,Elevated total bilirubin,glutamate transferase (GGT),Hypernatremia	No Data	Suspected adverse reaction: on 23 April 2016 the puppy was vaccinated with Nobivac L4 and revaccinated on 26 May 2016. 10 days later the dog showed general malaise with lack of appetite and vomiting (thick and frothy). In the following 2-3 days the vomiting worsened (the dog vomited the water, also) and the puppy had jaundiced mucous. On 3 June 2016 the following analysis were performed: bilirubin 5.8 mg/dl, alkaline phosphatase 710 mg/dl, phosphorus 2.8 mg/dl, sodium 137 mEq/dl, HCT 59.6 (%), WBC 5.4 (x 109/micro), lymphocytes 0.90. 2 days later, the analysis worsened: bilirubin 8.4 mg/dl, alkaline phosphatase 716 mg/dl, HCT 62.7 (%), GGT 47 (IU/L), bile acids 140 (nmol/l), WBC 18.9 (x 109/micro). The veterinarian decided for an exploratory laparotomy that showed hepatitis and pancreatitis. No further information expected, case closed. FOLLOW UP 5 FEB 2018: The puppy died on 11/06/18 without having awakened from anaesthesia. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 543 Reason: Prophylaxis] [State of health: Unknown]	Chihuahua	Not Known	NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose (26/05/2016-26/05/2016)-BR>>BR>	O1 - Inconclusive	Vaccination cannot be ruled out completely even the adverse events are not known to vaccination. No further investigation.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00186	Italy	Animal	Canine/dog	3 Month(s)	30/07/2016	04/08/2016	1	1	1	30/07/2016	Yes R> Yes	Neurological signs NOS,Respiratory distress,Death,Hypothermia,Other metabolic disorder	No Data	Suspected adverse reaction: on 30 July 2016 the veterinarian vaccinated 4 puppies with Nobivac CEPI and Nobivac L4. 2 hours later, one puppy showed neurologic and metabolic signs (not described), hypothermia and respiratory crisis and died 5 hours later. No further information expected, case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPI 50XIDS 360 Reason: Prophylaxis] [State of health: Good]	Chihuahua	0.5	NOBIVAC CEPI 50XIDS 360 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (30/07/2016-30/07/2016)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (30/07/2016-30/07/2016)-BR>>BR>	A - Probable	Probable hypersensitivity reaction, even if two products were administered.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00238	Italy	Animal	Canine/dog	2 Year(s)	22/09/2016	02/11/2016	1	1	0	06/10/2016	Not Known R> No	Low platelet count,Splenomegaly,Pale mucous membrane,Constipation,Appetite loss,Hyperthermia,Depression,Immune mediated haemolytic anaemia,Hyperphosphataemia,Elevated SAP,Decreased red blood cell count,Abnormal red blood cell	Other	Suspected adverse reaction: on 22 September 2016 the veterinarian vaccinated the dog with Eurican CHP diluted in Nobivac L4. About 15 days later, the dog showed hyperthermia and constipation, and was treated with antipyretic, only. On 13 October 2016 the dog was visited by the veterinarian for depression, lack of appetite, constipation, pale mucosae, hyperthermia (39.8°C), splenomegaly. After having performed the blood analysis (not available), the veterinarian diagnosed a haemolytic immunodeficiency and started the administration of cortisone. On 24 October 2016 the dog was visited by another veterinarian who carried out the blood analysis, revealing a severe anaemia: RBC 0.55 (x10 ¹² /l), Hb 7.1 (g/dl), PCV 20.4 (l/l), ADP 205 U/l, haemagglutination, polychromasia, nucleated red blood cells 4%. The dog is under treatment with prednisolone. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 543 Reason: Prophylaxis] [State of health: Good]	Shetland Sheepdog	8.4	Antipyretic Unknown - N/A,N/A,N/A,24.1 Unknown (27 Days) 06/10/2016-02/11/2016)-BR>>BR>Eurican CHP 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (22/09/2016-22/09/2016)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (22/09/2016-22/09/2016)-BR>>BR>	B - Possible	CA agrees with the MAH's assessment.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00249	Italy	Animal	Canine/dog	3 Month(s)	07/11/2016	08/11/2016	1	1	0	07/11/2016	Yes R> Yes	Facial oedema	No Data	Suspected adverse reaction: on 7 November 2016 the veterinarian vaccinated the puppy with Nobivac CEP diluted in Nobivac L4. 30 minutes later, the dog showed facial oedema. The veterinarian administered Dexamethasone and the dog recovered in 60 minutes. No further information expected, case closed. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC CEP 50XIDS 360 Reason: Prophylaxis] [State of health: Good]	Chihuahua	1.2	NOBIVAC CEP 50XIDS 360 - 1,N/A,N/A,24.1 Dose (07/11/2016-07/11/2016)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose (1 Day) 07/11/2016-07/11/2016)-BR>>BR>	B - Possible	Possible hypersensitivity reaction, even if two vaccines were administered concurrently and any of them could be a possible cause.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00251	Italy	Animal	Canine/dog	2 Month(s)	07/11/2016	09/11/2016	5	3	0	07/11/2016	Yes R> Yes	Seizure NOS,Mucous stool,Incoordination	No Data	Suspected adverse reaction: on 7 November 2016 the veterinarian vaccinated 5 puppies of the same litter with Nobivac CEPI diluted in Nobivac L4. 2 days later, 3 puppies showed seizures, mucous diarrhoea, uncoordinated movements. The puppies are under treatment with Amoxicillin+clavulanic acid, cortisone, valium, fluid therapy. 1 puppy is improving, 1 puppy is stationary, the last one is in severe conditions. The mother is MDR positive. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 543 Reason: Prophylaxis] [State of health: Good]	Australian Shepherd Dog	5	NOBIVAC CEPI 50XIDS 360 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (07/11/2016-07/11/2016)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (07/11/2016-07/11/2016)-BR>>BR>	O1 - Inconclusive	No temporal association, no further investigation available, two product were administered.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00259	Italy	Animal	Canine/dog	5 Year(s)	03/11/2016	01/12/2016	1	1	1	04/11/2016	Yes R> Yes	Death	No Data	Suspected adverse reaction: on 3 November 2016 the veterinarian vaccinated the dog. The owner informed the veterinarian that the dog died during the following night. No symptoms described, no further analysis performed. No further information expected, case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPI 50XIDS 360 Reason: Prophylaxis] [State of health: Good]	Affenpinscher	2.5	NOBIVAC CEPI 50XIDS 360 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (03/11/2016-03/11/2016)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose 1 Animal (1 Day) 03/11/2016-03/11/2016)-BR>>BR>	O1 - Inconclusive	Close association in time but no further analysis performed, no sufficient information available to draw a conclusive assessment. Two products administered.
NOBIVAC L4	ITA-MERCKMSD-2016-IT-00260	Italy	Animal	Canine/dog	18 Month(s)	07/11/2016	14/02/2017	1	1	0	07/11/2016	Yes	Vomiting,Reddening of the skin,Facial oedema	No Data	Suspected adverse reaction: on 7 November 2016 the veterinarian vaccinated the dog with Nobivac L4. 90 minutes later, the dog showed vomiting, facial oedema (nose) and redness of abdomen and lower part of the neck. The dog was treated with prednisolone 5 mg and recovered within 10 hours from the vaccination. No further information expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 543 Reason: Prophylaxis] [State of health: Good]	Crossbred	8.9	NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose 1 Animal (07/11/2016-07/11/2016)-BR>>BR>	A - Probable	Probable hypersensitivity reaction.
NOBIVAC L4	ITA-MERCKMSD-2017-IT-00006	Italy	Animal	Canine/dog	20 Month(s)	13/01/2017	01/02/2017	1	1	0	14/01/2017	Yes	Epileptic seizure	No Data	Suspected adverse reaction: on 13 January 2017 the veterinarian vaccinated the dog with Nobivac L4. 24 hours later, the dog showed an epileptic-like crisis, lasting for some minutes. 24 hours later (15 January 2017), another crisis, shorter duration. The first vaccination, one month before, did not cause any problem. No further information neither available nor expected, case closed. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 50XIDS 543 Reason: Prophylaxis] [State of health: Good]	Crossbred	18	NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (13/01/2017-13/01/2017)-BR>>BR>	O1 - Inconclusive	The time to onset is not very suggestive of an effect of the administration and the available information is insufficient to assess the case.
NOBIVAC L4	ITA-MERCKMSD-2017-IT-00010	Italy	Animal	Canine/dog	11 Week(s)	14/01/2017	02/05/2017	1	1	0	14/01/2017	Yes R> Yes	Septic arthritis,Flaccid paralysis,Lameness	No Data	Suspected adverse reaction: on 14 January 2017 the veterinarian vaccinated the dog with Nobivac CEP and Nobivac L4. In the right side of the neck. 3-4 hours later, the dog showed a lameness at the right front legs quickly followed by flaccid paralysis. The veterinarian diagnosed a septic Arthrosynovitis and administered antibiotics and anti-inflammatories. After 24 hours of treatment the dog is still showing the paralysis but his general conditions are good. No further information expected, case closed. FOLLOW UP 28 January 2017 The owner refers that after 1 week of treatment the dog was improved and the signs at the right front leg disappeared. Nevertheless, from 27 January the dog is showing severe lameness at the left front leg. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 543 Reason: Prophylaxis] [State of health: Good]	Australian Shepherd Dog	7	NOBIVAC CEP 10XIDS 360 - 1,N/A,N/A,24.1 Dose 1 Animal (14/01/2017-14/01/2017)-BR>>BR>NOBIVAC L4 10XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (14/01/2017-14/01/2017)-BR>>BR>	O2 - Unclassified	Time association with vaccination, but many other causes occurred.
NOBIVAC L4	ITA-MERCKMSD-2017-IT-00024	Italy	Animal	Canine/dog	4 Month(s)	31/01/2017	10/02/2017	1	1	0	31/01/2017	Yes R> Yes	Hyperactivity,Falling,Unable to stand,Ataxia,Muscle tremor,Glazed eye	No Data	Suspected adverse reaction: on 31 January 2017 the veterinarian vaccinated the dog with Nobivac CEPI and Nobivac L4. Some time (not specified) the dog showed alternating hyperactivity (racing and jumping vertically) and ataxia with tremors, gaze, unable to stand and falling down. The veterinarian administered cortisone and fluid therapy and the dog recovered in 6 hours. No further information expected, case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPI 50XIDS 360 Reason: Prophylaxis] [State of health: Good]	Bull Terrier	6	NOBIVAC CEPI 50XIDS 360 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (31/01/2017-31/01/2017)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (31/01/2017-31/01/2017)-BR>>BR>	B - Possible	Association in time. Hypersensitivity reaction. Two products administered.
NOBIVAC L4	ITA-MERCKMSD-2017-IT-00031	Italy	Animal	Canine/dog	4 Month(s)	07/02/2017	14/03/2017	1	1	0	09/02/2017	Yes R> Yes	Hydrocephalus,Circling-neurological disorder (see also 'Behavioural disorders'),Abnormal movement NOS,Anorexia,Nystagmus	No Data	Suspected adverse reaction: on 7 February 2017 the veterinarian vaccinated the dog with Nobivac CEPI and Nobivac L4. On 8 February the dog showed anorexia, on 11 February neurological signs such as nystagmus and abnormal movements (it walked in circle). On 13 February 2017 the veterinarian performed a CT scan and observed a severe hydrocephalus, probably of infectious origin. No further information expected, case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPI 10XIDS 360 Reason: Prophylaxis] [State of health: Unknown]	French Bulldog	Not Known	NOBIVAC CEPI 10XIDS 360 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (07/02/2017-07/02/2017)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (07/02/2017-07/02/2017)-BR>>BR>	O1 - Inconclusive	Association in time with the vaccination, but the signs seen due to the hydrocephalus. Two products administered. No further information available.
NOBIVAC L4	ITA-MERCKMSD-2017-IT-00039	Italy	Animal	Canine/dog	3 Year(s)	28/02/2017	20/04/2017	1	1	0	28/02/2017	Yes R> Yes	Face and neck swelling (see also 'Skin'),Dyspnoea	No Data	Suspected adverse reaction: on 28 February 2017 the veterinarian vaccinated the dog with Nobivac CEPI and Nobivac L4 (annual vaccination). About 1.5 hour later, the dog showed facial and neck swelling, progressively worsened, and dyspnoea. The dog was treated with methylprednisolone and fluid therapy, and fully recovered after 24 hours. No further information expected, case closed. [Reason for use for product: Generic: DHPPI LV Brand: NOBIVAC CEPI 50XIDS 360 Reason: Prophylaxis] [State of health: Good]	French Bulldog	8	NOBIVAC CEPI 50XIDS 360 - 1,N/A,N/A,24.1 Dose Not applicable 1 Animal (28/02/2017-28/02/2017)-BR>>BR>NOBIVAC L4 50XIDS 543 - 1,N/A,N/A,24.1 Dose 1 Animal (28/02/2017-28/02/2017)-BR>>BR>	A - Probable	Probable hypersensitivity reaction, even if two products administered.

NOBIVAC L4	NL-NLINTVINT-2014-NL-00661	Netherlands	Animal	Canine/dog	4 Year(s)	20/03/2014	14/08/2014	1	1	1	0	25/03/2014	Yes	Pain,NDS,Acute renal failure	No Data	Suspected Adverse Reaction. On 20 Mar 2014 the dog was vaccinated with Nobivac L4. On 25 Mar 2014 the dog had symptoms of pain and was taken to another vet who suspected the dog had a neck hernia. That day there were no abnormalities of the kidney function. On 30 Mar 2014 the dog had acute renal insufficiency. Unknown if or what kind of treatment was started but the dog did recover fully (unknown when exactly). Before the dog was vaccinated on 20 Mar 2014 it had a period of lameness. It was treated for this with NSAID's, treatment ended about 3-4 weeks before the vaccination. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 547 Reason: Vaccination] [State of health: Unknown]	Leonberger	Not Known	NOBIVAC L4 10X1DS 547 - 1,N/A/N/A,24,1 Dose (20/03/2014-20/03/2014)-BR- 	N - Unlikely	Time to onset of clinical signs is rather long. Clinical signs do not fit the pharmacological/toxicological profile of the product. Other cause are more likely such as an underlying disease. Product involvement is unlikely.
NOBIVAC L4	NL-NLINTVINT-2014-NL-00664	Netherlands	Animal	Canine/dog	9 Week(s)	30/07/2014	18/08/2014	1	1	0	30/07/2014	Yes, -BR- R= -BR>-BR>Yes, -BR>-BR>-BR>Yes	Increased heart rate,Shock,Fale mucous membrane,Diarrhoea,Bloody diarrhoea,Vomiting,Decreased appetite,Prolonged capillary refill time	No Data	Suspected Adverse Reaction. On 30 Jul 2014 the dog was vaccinated with Nobivac Parvo-C, Nobivac L4 and Nobivac KC. About 2.5 hours later the dog started vomiting and had diarrhoea. The dog was taken to the vet: the dog had pale mucous membranes and the capillary refill time could not be determined. Heart rate was 200 bpm and according to the vet the dog was going into shock. Temperature was normal. Treatment was started with fluids (r glucose) S.C. an injection of dexmethasone and Cerenia (maropitant). Food was offered but the dog did not want to eat. The dog seemed to be a bit better (less pale) after fluids and was taken home. In the night the dog had bloody diarrhoea once. After about 24 hours the dog had recovered. No further information expected. [Reason for use for product: Generic: CANINE PARVO LV Brand: NOBIVAC PARVO-C 10X1DS 610 Reason: Vaccination] [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 547 Reason: Unknown] [Reason for use for product: Generic: BB CANINE / P1 LB/LV Brand: NOBIVAC KC 25X1DS+25X1DS-DIL 610 Reason: Unknown] [State of health: Unknown]	Crossbred	Not Known	NOBIVAC KC 25X1DS+25X1DS DIL 610 - 1,N/A/N/A,24,1 Dose (30/07/2014-30/07/2014)-BR- NOBIVAC L4 10X1DS 547 - 1,N/A/N/A,24,1 Dose (30/07/2014-30/07/2014)-BR- NOBIVAC PARVO-C 10X1DS 610 - 1,N/A/N/A,24,1 Dose (30/07/2014-30/07/2014)-BR- 	B - Possible	Time to onset of clinical signs is compatible. Clinical signs fit (partly) the pharmacological/toxicological profile of the product. Other causes are possible and concomitant use of several products, but product involvement is suspected (possible vaccination reaction, hypersensitivity reaction). Therefore causality B.	
NOBIVAC L4	NL-NLINTVINT-2014-NL-00668	Netherlands	Animal	Canine/dog	17 Week(s)	08/07/2014	01/10/2014	3	1	0	18/07/2014	Not Known, -BR- -BR>-BR>Not Known	Elevated bile acids,Listless,Abnormal test result,Weight loss,Lack of efficacy,Elevated creatinine,Decreased appetite,Yellow mucous membranes,Hepatitis,Vomiting,Seizures - neurological disorder,Elevated total bilirubin,General illness	Not Known	SLEE On 17 Jun 2014 a litter of pups was vaccinated with Nobivac Parvo-C and Nobivac L4. On 18 Jul 2014 the pups were vaccinated with Nobivac DHP or DHPH (unclear which of the two, chosen for DHPH) and Nobivac L4. At the end on Jul 2014 a number of pups were sold to new owners and 2 pups stayed at the breeder. The breeder was informed that 1 of the sold pups had become sick on 15 Aug 2014 (unknown which symptoms were seen) and the attending vet of that pup sent the pup to a specialist clinic. There leptospirosis was diagnosed (but unclear which kind of test was used). On 16 Aug 2014 a second pup which was sold to a different owner also became sick (unclear which symptoms were seen). The attending vet of that pup also sent the pup to a specialist clinic where they saw Leptospirosis as a possibility (but test results not back yet). Follow-up information pending. Follow-up (20 Aug 2014): both dogs do come from the same breeder but are not from the same litter. The pup that became sick on 15 Aug 2014 is from a previous litter and therefore older. Also for this pup it is now clear it was not vaccinated with Nobivac L4 but unclear which product was used (therefore this pup will now be taken out of this case). The other pup (which became sick on 15 Aug 2014) went to the specialist on 18 Aug 2014. Blood tests were done and the dog had elevated bilirubin and bile acids. A portosystemic shunt was ruled out by ultrasound, the symptoms seen match a mild acute hepatitis. Just to be sure urine was sent in for PCR on Leptospirosis, results pending. Follow-up information pending. Follow-up (22 Aug 2014): On 14 Aug 2014 the dog was taken to the vet because it was not fit (VeDDRA coded as general illness) since 1 week. The dog is mainly just very listless, has lost weight and is hardly eating anymore. Also the dog had vomited once or twice. The dog does play with mice and eats them. It is also possible that the dog licked grass which had been treated with a chemical product. The vet saw a slight yellow coloration of the mucous membranes. Also creatinine was slightly elevated. Dog was sent to a specialist clinic where the dog was admitted and i.v. fluid therapy and Primperid (metoclopramide) was started. Ultrasound of the abdomen showed no significant abnormalities. At the clinic the dog did eat quite well but slept a lot too. On 16 Aug 2014 the dog was doing quite well but creatinine level had increased more. Just to be safe treatment with amoxicillin was started but Primperid was stopped. The dog had gained a bit of weight. On 17 Aug 2014 the dog was happy and eating well. Urine which was collected before antibiotics were started was sent in to a lab for testing of Leptospirosis (PCR test). 18 Aug 2014: Results of bile acids back from lab sent in around 18 Aug 2014: elevated. Still, dog	Labrador Retriever	Not Known	NOBIVAC DHP 10X1DS 610 - 1,N/A/N/A,24,1 Dose (08/07/2014-08/07/2014)-BR- NOBIVAC L4 10X1DS 547 - 1,N/A/N/A,24,1 Dose (08/07/2014-08/07/2014)-BR- 	B - Possible	CA agrees with the comments of the MAH. But there is a seroconversion for serogroup Icterohaemorrhagiae, although very low. Product involvement is suspected. Therefore causality B.	
NOBIVAC L4	NL-NLINTVINT-2014-NL-00671	Netherlands	Animal	Canine/dog	10 Year(s)	04/08/2014	19/08/2014	1	1	0	07/08/2014	Yes, -BR- R= -BR>-BR>Yes	Enlarged liver,Enlarged pupils,Panting,Appetite loss,Listless,Muscle rigidity,Elevated liver enzymes,Blood in urine,Abnormal ultrasound finding,Behavioural disorder NOS,Restlessness,Flatulence,Diarrhoea,Vomiting	No Data	Suspected Adverse Reaction. On 4 Aug 2014 the dog was vaccinated with Nobivac L4. The owner told the vet the dog suspected the dog a bacterial infection because the dog urinated more often than usual. The vet checked the urine and found no abnormalities except a trace of blood after 1 minute on the urine test strip. Around 6 Aug 2014 the owner gave the dog a Bravecto Small dog chew. The next day the dog was less alert (VeDDRA coded as listlessness) and didn't want to eat. Also vomited once and still urinated more often than usual. On 9 Aug 2014 the dog was taken back to the vet. The urine was checked again and was now clearly positive for blood. Treatment was started with an injection of Suramox (amoxicillin) and Noroclav (amoxicillin-clavamic acid) tablets to take home (for 5 days). The next day the dog came back to the vet because it had vomited after giving Noroclav and was very listless. The vet gave another injection of Suramox and an injection of Cerenia (maropitant) and said to keep on giving the Noroclav tablets. On 11 Aug 2014 the dog came back to the vet again because it was vomiting and couldn't keep any food down. Also very listless. Blood tests were done: liver enzymes were elevated. On ultrasound the liver seemed a bit enlarged. The dog was admitted for a few hours and treated with fluids (i.v. or s.c. is unknown), another injection of Suramox and Cerenia. That night (at home) the dog seemed a bit better but did have diarrhoea once. The next day the dog went to a specialist: a spot of lipidosis in the liver was seen, no other abnormalities (liver was not enlarged). On 14 Aug 2014 the dog had recovered, was eating well and had normal faeces. On 18 Aug 2014 around 12.30 am the dog was taken to the emergency vet because very suddenly the dog became restless and was panting and seemed to be very tense (VeDDRA coded as muscle rigidity). The dog had flatulence when the vet was palpating the abdomen. Treatment was started with metoclopramide and Onsior (robenacoxib). Shortly after this the dog improved but still was panting, had large pupils and stayed very close to the owner (abnormal behaviour). No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 547 Reason: Vaccination] [Reason for use for product: Generic: FLURALANER CHEW TABLETS Brand: BRAVECTO 250MG 1X1TAB EU1 Reason: Unknown] [State of health: Fair]	Cairn Terrier	8	Bravecto 250 mg chewable tablets for small dogs (<4.5-10 kg) - 1,N/A/N/A,24,1 Tablets Once (06/08/2014-06/08/2014)-BR- Nobivac L4, suspension for injection for dogs - 1,N/A/N/A,24,1 Dose (04/08/2014-04/08/2014)-BR- 	O1 - Inconclusive	Onset of symptoms quite long (3 days) after vaccination. Dog already had symptoms of urinating more often than normal and blood in urine before vaccination, possibly this was already the start of the problems which developed after vaccination. Other VMP used concurrently. Insufficient data, however product involvement cannot be excluded. Therefore, causality O1.	
NOBIVAC L4	NL-NLINTVINT-2014-NL-00692	Netherlands	Animal	Canine/dog	2.5 Year(s)	25/08/2014	25/08/2014	1	1	0	25/08/2014	Yes, -BR>-BR>R= -BR>-BR>Yes	Muscle tremor,Chattering of teeth,Lateral recumbency	No Data	Suspected Adverse Reaction. On 25 Aug 2014 the dog was vaccinated with Nobivac DHP and Nobivac L4. 2 hours after vaccination the dog was brought back to the vet because of tremors over the whole body and had chattering teeth. The dog was still conscious and alert, temperature was normal, no abnormalities of the eyes (no nystagmus or strabismus), no neurological abnormalities but was in lateral recumbency. The dog was treated with 2ml Dexadrenon (dexamethasone) and later also diazepam i.v. but no improvement was seen. The vet thought the dog might have the 'white hairy shaker syndrome'. The dog originally comes from Spain and it's previous vaccination status is unknown. No further information expected. [Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10X1DS 610 Reason: Vaccination] [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 547 Reason: Unknown] [State of health: Unknown]	Crossbred	13	Nobivac DHP - 1,N/A/N/A,24,1 Dose (25/08/2014-25/08/2014)-BR- Nobivac L4, suspension for injection for dogs - 1,N/A/N/A,24,1 Dose (25/08/2014-25/08/2014)-BR- 	O1 - Inconclusive	Close association in time (2 hours) but not a known reaction to Nobivac DHP. Many possible causes, none of which have yet been investigated; insufficient data, however product involvement cannot be ruled out at this point. Therefore, causality O1.	
NOBIVAC L4	NL-NLINTVINT-2014-NL-00696	Netherlands	Animal	Canine/dog	11 Week(s)	12/08/2014	27/08/2014	1	1	1	19/08/2014	Yes, -BR>-BR>R= -BR>-BR>Yes	Diarrhoea,Vomiting,Yellow mucous membranes,Death by euthanasia,Elevated liver enzymes,Elevated creatinine	No Data	Suspected Adverse Reaction. On 12 Aug 2014 a pup was vaccinated with Nobivac Parvo-C and Nobivac L4 (pup was 10 weeks at the time). On 19 Aug 2014 the pup started vomiting and had diarrhoea. The vet gave medication for this. On 20 Aug 2014 the dog seemed to have septicemia, had elevated liver values and elevated creatinine. Treatment with antibiotics and fluids was started. That evening the dog had yellow mucous membranes. On 21 Aug 2014 the dog was euthanased. The breeder didn't want an autopsy to be performed. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 547 Reason: Vaccination] [Reason for use for product: Generic: CANINE PARVO LV Brand: NOBIVAC PARVO-C 10X1DS 610 Reason: Unknown] [State of health: Unknown]	Other Canine/dog	Not Known	NOBIVAC L4 10X1DS 547 - 1,N/A/N/A,24,1 Dose (12/08/2014-12/08/2014)-BR- NOBIVAC PARVO-C 10X1DS 610 - 1,N/A/N/A,24,1 Dose (12/08/2014-12/08/2014)-BR- 	O1 - Inconclusive	Time to onset of clinical signs is rather long. Clinical signs fit partly the pharmacological/toxicological profile of the product. Insufficient data. Other causes are possible and concomitant use of two products, but product involvement can't be fully excluded. Therefore causality O1.	

NOBIVAC L4	NL-NLINTVINT-2014-NL-00702	Netherlands	Animal	Canine/dog	7 Year(s)	08/05/2014	27/08/2014	1	1	0	10/05/2014	Yes; R> Yes	Alkaline urine,Blood in urine,Shaking,Crystalluria,Retching, Seizure NOS,Cough,Itstless,Abnormal posture NOS,Lateral recumbency	No Data	Suspected Adverse Reaction. On 8 May 2014 the dog was vaccinated with Nobivac KC and Nobivac L4. It was reported that the dog is sensitive to many things such as diet. A few days after vaccination the dog had blood in the urine and was listless. Around 22 May 2014 the dog developed a loud dry cough and retching when excited. On 30 May 2014 the dog received a booster vaccination of Nobivac L4. On 2 Jun 2014 the owner reported to the vet she noticed the dog walking around with an arched back. Also the dog had one episode of lateral recumbency and shaking. Urine was brought in: pH was too high and struvite crystals were seen. Advice was to treat this with antibiotics and NSAIDs (but unclear if this was actually done) because results are indicative for a bladder infection. On 30 Jun 2014 the dog was doing very well but urine was checked again and the pH was still very high and struvite crystals were still present. The vet still gave the advice to change to a special diet to lower the pH of the urine and resolve the struvite crystals but the owner doesn't want to. No further information expected. [Reason for use for product: Generic: BB CANINE / PI LB/LV Brand: NOBIVAC KC 25X1D5+25X1D5 DIL 61D Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 547 Reason: Unknown.] [State of health: Good]	Schapendoes	20.3	NOBIVAC KC 25X1D5+25X1D5 DIL 61D - 1,N/A,N/A, 24,1 Dose (08/05/2014-08/05/2014) NOBIVAC L4 10X1D5 547 - 1,N/A,N/A, 24,1 Dose Twice (22 Day(s) 08/05/2014-08/05/2014) 	O1 - Inconclusive	Some of the clinical signs reported (e.g. listless) could be related to the vaccination with Nobivac L4. Some of the other signs reported (e.g. blood in the urine, walking with arched back, lateral recumbency, shaking, alkaline urine, crystalluria) are suitable for an bladder infection, which does not fit the toxicological profile of the product. Overall causality assessment O1.
NOBIVAC L4	NL-NLINTVINT-2014-NL-00724	Netherlands	Animal	Canine/dog	10 Year(s)	22/07/2014	17/09/2014	1	1	1	22/07/2014	Yes	Slow heart rate,Shock,Pale mucous membrane,Digestive tract haemorrhage NOS,Vomiting,hepatic necrosis,Not drinking,Decreased respiratory rate,Lung oedema,Tachypnoea,Panting,Death Cyanosis,Listless,Anaphylactic shock,Not eating,Anxiety,Rapid pulse rate,Elevated liver enzymes,Elevated renal parameters,Abdominal discomfort,Abnormal ultrasound finding,Crickles on auscultation,Abnormal necropsy finding	No Data	Suspected Adverse Reaction. On 22 Jul 2014 the dog was vaccinated with Nobivac L4. At the time of vaccination the owner said the dog was doing well but had lost a bit of weight. The dog had some warts and some dental tartar. Seeing the dog was 10 years old, blood was drawn just for a general check-up and if results are good, an appointment would be made to remove the warts and tartar. After the owner arrived at home from the vet, the dog was listless and became pale. The owner put the dog in a cold shower (because it was hot that day) and after that took the dog back to the vet. The vet saw pale pink mucous membranes, a slow pulse (VeDDRA coded as slow heart rate) and slow respiratory rate. The vet thought the dog seemed in shock and an injection of dexamethasone. The dog improved within half an hour but hadn't recovered completely yet. The owner took the dog home but there the dog started vomiting and became very pale again. The dog was still listless and didn't want to eat. The dog was taken back to the vet again where i.v. fluids were started. Also another injection of dexamethasone was given. After several hours the dog seemed stable but was panting. The dog went home for the night but was panting all night. Didn't want to eat or drink anything and was taken back to the vet in the morning. Now the vet heard crackles when lungs were auscultated. i.v. fluids were started again, another injection of dexamethasone and furosemide was given. The dog started deteriorating: tachypnea, rapid pulse, apathy, sensitive on abdominal palpation in liver region. Blood was drawn: liver and kidney values elevated. Ultrasound of the abdomen: spleen has some hyperplasia spots and the liver seems to have an abnormal structure and has rounded edges. On radiograph of the thorax lung oedema was seen. Oxygen was given but the dog became more and more blue. The dog was sent to a specialist but died on the way there. Autopsy was performed: acute hepatocellular necrosis without a clear cause in a liver which already had chronic changes (fibrosis). Also, probably secondary to the liver necrosis, bleeding in the stomach and intestines. No further information expected. Follow-up 17 Sep 2014: autopsy report received again with different conclusion now. Autopsy report now states abnormalities seen indicative for anaphylactic shock. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 547 Reason: Vaccination] [State of health: Good]	Crossbred	25.2	NOBIVAC L4 10X1D5 547 - 1,N/A,N/A, 24,1 Dose (22/07/2014-22/07/2014) 	A - Probable	CA agrees with causality assessment and comments of the MAH. Causality A.
NOBIVAC L4	NL-NLINTVINT-2014-NL-00726	Netherlands	Animal	Canine/dog	9 Year(s)	28/08/2014	04/09/2014	1	1	1	28/08/2014	Yes	Epilepsy,Death	No Data	Suspected Adverse Reaction. On 28 Aug 2014 at 3:30 pm the dog received a booster vaccination of Nobivac L4 (primary vaccination was 21 Jul 2014). At 7:30 pm the dog was suddenly not well and died. It seemed like epilepsy. Just before this happened the dog had been for a walk and was fed, no abnormalities were seen at that time. The dog was not sent in for autopsy. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 547 Reason: Vaccination] [State of health: Unknown]	English Springer Spaniel	Not known	NOBIVAC L4 10X1D5 547 - 1,N/A,N/A, 24,1 Dose (28/08/2014-28/08/2014) 	O1 - Inconclusive	Reasonable association in time but other factors have not been ruled out. Case poorly documented. Causality O1.
NOBIVAC L4	NL-NLINTVINT-2014-NL-00727	Netherlands	Animal	Canine/dog	11 Year(s)	28/08/2014	07/01/2015	1	1	0	30/08/2014	Yes; R> Yes	Hind limb paralysis,Hind limb paresis,Paraparesis,Discus prolapse	No Data	Suspected Adverse Reaction. On 28 Aug 2014 the dog was vaccinated with Nobivac L4 and Nobivac Rabies. 2 days later the owner noticed the dog had trouble using its back legs (VeDDRA coded as hind limb paresis). The next day the dog was taken to the vet who determined the dog's back legs were paralyzed but it could still feel pain stimuli. The dog has been sent to a specialist, results are pending. Follow-up information pending. Follow-up (15 Dec 2014): the dog was taken to the specialist on 8 Sep 2014 where paraparesis was seen. Blood tests were done, a CT-scan and an MRI scan and the diagnosis of multiple spinal disc herniations was made. Seeing there were multiple herniations, surgery was not advised. According to the specialist it is very unlikely this is caused by the vaccination. Treatment was started with prednisolone. Outcome unknown. Follow-up information pending. Follow-up (6 Jan 2015): the dog has completely recovered. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 547 Reason: Vaccination Generic: RABIES IN ALU ADJUVANT KV Brand: NOBIVAC RABIES 10X1D5 61D Reason: Unknown.] [State of health: Unknown]	Other Canine/dog	22.8	NOBIVAC RABIES - 1,N/A,N/A, 24,1 Dose (28/08/2014-28/08/2014) NOBIVAC L4 10X1D5 547 - 1,N/A,N/A, 24,1 Dose (28/08/2014-28/08/2014) 	N - Unlikely	Close association in time (2 days). Diagnostic tests showed cause of paresis was multiple spinal disc herniations. Specialist indicated it is very unlikely this is caused by the vaccination.
NOBIVAC L4	NL-NLINTVINT-2014-NL-00752	Netherlands	Animal	Canine/dog	3 Year(s)	10/09/2014	25/02/2015	1	1	0	11/09/2014	Yes; R> Yes	Unable to stand,Depressed reflexes,Abnormal test result,Collapse of leg	No Data	Suspected Adverse Reaction. On 10 Sep 2014 the dog was vaccinated with Nobivac DHPPi and Nobivac L4. The next day the dog suddenly couldn't stand on its legs anymore and the legs collapsed. The dog was taken to the vet who found no abnormalities on neurological examination. The dog was given an injection of Solu-delta-cortef (prednisolone). The next day the dog came back, there was no improvement. The vet noticed the knee reflex and radialis reflex were absent. Blood was sent to an external lab for general tests. The vet treated the dog with acupuncture. In the weekend the dog was taken to another vet who took blood to send in for an antibody test for Myasthenia gravis. Also a radiograph of the thorax was taken, no abnormalities were seen. Treatment was started with Mestinox (pyridostigmine) and on 15 Sep 2014 the dog was doing better (but unknown if completely recovered). Results of general blood tests: monocytes slightly elevated and creatine kinase slightly elevated. Follow-up information pending. Follow-up (25 Feb 2015): antibody test for Myasthenia gravis was negative. No further information expected. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC DHPPi 10X1D5 61D Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 547 Reason: Unknown.] [State of health: Unknown]	German Shepherd Dog	Not known	NOBIVAC DHPPi - 1,N/A,N/A, 24,1 Dose Once (10/09/2014-10/09/2014) NOBIVAC L4 10X1D5 547 - 1,N/A,N/A, 24,1 Dose Once (10/09/2014-10/09/2014) 	O1 - Inconclusive	Close association in time (1 day). No definite diagnosis yet and therefore unclear if there are other known possible causes. Also multiple products used.
NOBIVAC L4	NL-NLINTVINT-2014-NL-00754	Netherlands	Animal	Canine/dog	1 Year(s)	09/09/2014	18/02/2015	1	1	1	11/09/2014	Yes; R> Yes	Death,Lack of efficacy,Abnormal test result	No Data	Suspected Lack of Expected Efficacy. On 22 Oct 2013 and 19 Nov 2013 the dog received a primary and booster vaccination with Nobivac L4. On 9 Sep 2014 the dog was vaccinated with Nobivac L4 again and Nobivac DHPPi (or Nobivac DHP + Nobivac KC, unclear which, therefore chosen Nobivac DHPPi). On 11 Sep 2014 the dog was presented to the vet with classic symptoms of severe Leptospirosis (unclear which symptoms, so not VeDDRA coded). Blood was sent to an external lab and PCR test for Leptospirosis was positive. Treatment was started with among others antibiotics (first amoxicillin-clavulic acid on 11 Sep 2014, then Na-penicillin from 12 Sep 2014) but on 13 Sep 2014 the dog died. Dog has been sent in for autopsy. Follow-up information pending. Follow-up 13 Nov 2014: results of MAT test: obvious blood was taken shortly after vaccination: titers indicate some response (so dog is not a non-responder) but titers not extremely high yet because the blood test was too short after vaccination for the production of antibodies to reach its top. Due to the recent vaccination and the titers caused by this, it is impossible to determine which serogroup was involved in the field infection. Autopsy results pending. Follow-up (18 Feb 2015): autopsy results: the pathomorphological changes seen fit a subacute leptospiral infection. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1D5 547 Reason: Vaccination Generic: DHPPi LV Brand: NOBIVAC DHPPi 10X1D5 61D Reason: Vaccination] [State of health: Unknown]	Boxer (German Boxer)	24.3	NOBIVAC DHPPi 10X1D5 610 - 1,N/A,N/A, 24,1 Dose Once (09/09/2014-09/09/2014) NOBIVAC L4 - 1,N/A,N/A, 24,1 Dose Once 1 Animal (09/09/2014-09/09/2014) 	A - Probable	Dog was vaccinated 22-10-13, boosted on 19-11-13, and then again on 09-09-14. The dog should therefore still have immunological protection against Leptospirosis based on the 2013 vaccinations, according to the SPC. Lot is suspected. Pathomorphological changes associated with (subacute) leptospiral infection confirmed on autopsy. Therefore, causality A.

NOBIVAC L4	NL-NLINTVINT-2015-NL-00032	Netherlands	Animal	Canine/dog	10 Year(s)	04/12/2014	21/01/2015	1	1	0	08/01/2015	Yes; R- Yes	Anaemia NOS, Yellow mucous membranes, Decreased appetite, Abnormal radiograph finding	No Data	Suspected Adverse Reaction. On 4 Dec 2014 the dog was vaccinated with Nobivac L4 and Nobivac PL. Since 8 Jan 2015 the dog hasn't been eating well. On 15 Jan 2015 the dog was taken to the vet, at that time the dog also had yellow mucous membranes. The vet did a blood test and the results showed an anaemia. On an abdominal x-rays some calcification of the liver was seen. Treatment with Dexamethasone (dexamethasone) was started. On 26 Jan 2015 the results of a Coombs's test were back, the test was negative. But in the meantime the dog is responding well to the treatment (not fully recovered yet). No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination Generic: CANINE PARAINFLUENZA LV Brand: NOBIVAC PL 10XIDS 610 Reason: Unknown.] [State of health: Unknown]	Labrador Retriever	Not Known	NOBIVAC L4 10XIDS 547 - 1,N/A,N/A, 24,1 Dose Once (04/12/2014-04/12/2014) NOBIVAC PL 10XIDS 610 - 1,N/A,N/A, 24,1 Dose Once (04/12/2014-04/12/2014) 	01 - Inconclusive	CA agrees with causality assessment and comments of the MAH. Causality 01
NOBIVAC L4	NL-NLINTVINT-2015-NL-00081	Netherlands	Animal	Canine/dog	4 Year(s)	17/02/2015	31/12/2015	1	1	0	17/02/2015	Yes; R- Yes	Anxiety, Sleepiness - neurological disorder, Muscle stiffness, Unable to stand, Slow reflexes, Urinary retention, Listless, Hind limb ataxia, Flaccid muscles	No Data	Suspected Adverse Reaction. On 17 Feb 2015 at 9 am the dog was vaccinated with Nobivac DHP and Nobivac L4. 1.5 hours later the owner rang the vet because the dog was now listless, had slept a lot, it's tail was stiff and curled upwards (like that of a scorpion), it was walking strangely on it's back legs (waddling like a duck) and the dog had an anxious look in it's eyes. In the afternoon the dog seemed to be a bit better but in the evening it became worse again and the owner took the dog to the emergency vet. The dog did not have a fever but did have slow proprioception reflexes. The vet gave the dog an injection of Dexamethasone (dexamethasone) and an injection of midazolam. The next morning there was no improvement so the dog was taken back to the initial vet. Palpation of neck and back was not painful, but the dog still had slow proprioception reflexes. Treatment with Novocain (mivocain) was started. In the afternoon the owner called that the dog had deteriorated: the back legs had less muscle tone and she had not seen the dog urinate anymore. But the owner didn't want any more treatment. In the evening the owner called again, the muscle tone of the back legs had become even less and now the dog couldn't stand on it's back legs anymore. On 19 Feb 2015 the owner asked the vet to give the dog an injection Solu-delta-cortef (prednisolone) but the vet advised to take x-rays of the back first. The owner does not want this. The dog had urinated again but unclear if the dog did this consciously or not. The vet contacted a specialist for his opinion: he is convinced the dog has a discus hernia and advised to send the dog in for a scan and surgery but the owner doesn't want this. Then the only thing to try is a high dose of prednisolone but if no improvement at all within 1-2 days, euthanasia is advised. Follow-up information pending. 31 Dec 2015: attending vet did not supply follow-up information, no further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 610 Reason: Unknown.] [State of health: Good]	Other Canine/dog	Not Known	Nobivac DHP - 1,N/A,N/A, 24,1 Dose Once (17/02/2015-17/02/2015) Nobivac L4, suspension for injection for dogs - 1,N/A,N/A, 24,1 Dose Once (17/02/2015-17/02/2015) 	01 - Inconclusive	CA agrees with MAH causality assessment and comments
NOBIVAC L4	NL-NLINTVINT-2015-NL-00083	Netherlands	Animal	Canine/dog	8 Year(s)	15/12/2014	18/02/2015	1	1	1	15/12/2014	Yes	Found dead, Listless, Localised pain NOS (see other 'SOCs' for specific pain), Not eating, Disturbance in attention	No Data	Suspected Adverse Reaction. On 15 Dec 2014 the dog was vaccinated with Nobivac L4. On 21 Jan 2015 the dog was brought back to the vet for the booster vaccination but the owner then told the vet the dog was more listless, not eating well and was less attentive than usual. According to the owner this had started shortly (but unknown when exactly) after the primary vaccination on 15 Dec 2014. The vet did a general physical examination but only found a painful neck. X-rays were taken of the neck but no abnormalities were seen. Also some blood tests were done but also no abnormalities were seen. On 27 Jan 2015 the dog was found dead in it's basket in the morning. The dog was not sent in for autopsy. The dog was already on treatment with Vetoryl (trilostane) for Cushing's disease (unknown when treatment for this started exactly). No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination Generic: Brand: Vetoryl Reason: Other] [State of health: Unknown]	Boston Terrier	Not Known	Nobivac L4, suspension for injection for dogs - 1,N/A,N/A, 24,1 Dose Once (15/12/2014-15/12/2014) 	0 - Possible	CA agrees with MAH causality assessment and comments
NOBIVAC L4	NL-NLINTVINT-2015-NL-00087	Netherlands	Animal	Canine/dog	3 Month(s)	16/02/2015	22/05/2015	1	1	1	17/02/2015	Yes	Hind limb paralysis, Abnormal necropsy finding, Hyperactivity, Vocalisation, Head tilt - ear disorder, Convulsion, Epilepsy, Epileptic seizure, Falling, Circling - neurological disorder (see also Behavioural disorders), Nystagmus, Paralysis, Death by euthanasia, Fever, Foaming at the mouth, Stiffness NOS, Tiredness, Head tremor, Walking difficulty, Breathlessness	No Data	Suspected Adverse Reaction. On 16 Feb 2015 the dog was vaccinated with Nobivac L4 (booster). The next day the dog developed odd behaviour: episodes of suddenly running in circles, has its head tilted, is shaking its head, screaming, then becomes tired and lies down but then has convulsions. The whole body becomes stiff, sometimes also foaming at the mouth. In between episodes the dog is quite calm but there is constant movement of the eyes (McDRRA coded as nystagmus). The dog was taken to the vet on 18 Feb 2015 where the vet noticed the dog was short of breath, temperature was 38.4 °C. Treatment given was an injection of Rapidexon (dexamethasone) and AlbiPen (ampicillin). The frequency of the episodes has decreased but the dog has not fully recovered yet. On 27 Feb 2015 the dog has an appointment with a specialist in neurology. On 26 Jan 2015 the dog was vaccinated with Nobivac DHP and Nobivac L4 without any problems. Also for the vaccination at 6 and 9 weeks of age Nobivac products were used. 2 other pups from the same litter were also vaccinated with Nobivac products without any problems. Follow-up information pending. Follow-up (2 Mar 2015): dog has been to the neurologist on 27 Feb 2015: MRI of the brain and blood tests all normal. According to the neurologist the dog has severe epilepsy and paralysis of the back legs but the cause is still unknown. Follow-up information pending. Follow-up (11 Mar 2015): the dog is doing a bit better, if it is kept in the bench it stays calm and has no seizures. But when the dog is let out of the bench, it becomes very active and runs until it falls over. The results of a DNA test for susceptibility to pug dog encephalitis are known: no copies of the NME associated markers were found, this dog has a low risk of developing necrotizing meningoencephalitis. Follow-up information pending. Follow-up (3 Apr 2015): on 19 Mar 2015 the dog had another seizure after which it was almost completely paralysed. The dog did improve a lot and was able to walk again, but not as well as before. A few days later seizures started again, now the dog has short seizures every day and walking is hardly possible. The owner and vet have decided euthanasia is the best option, this will be done on 13 Apr 2015 and the dog will be sent in for autopsy. Follow-up information pending. Follow-up (22 May 2015): autopsy results: there is multifocal mild vacuolization, satellitosis and gliosis in multiple areas of the brain and spinal cord. Also in the brain stem and spinal cord a few degenerated or necrotic neurons were seen. The cause of these changes is not clear but it is unlikely that the recent vaccination is the cause (but still cannot be excluded completely). No further information expected. CA (8 June 2015): Death by euthanasia added as veddra	Pug	3.4	Nobivac L4 - 1,N/A,N/A, 24,1 Dose Once (16/02/2015-16/02/2015) 	01 - Inconclusive	CA agrees with causality assessment MAH 01
NOBIVAC L4	NL-NLINTVINT-2015-NL-00099	Netherlands	Animal	Canine/dog	1 Year(s)	11/02/2015	27/02/2015	1	1	0	11/02/2015	Yes; R- Yes	Injection site swelling, Behavioural disorder NOS, Vocalisation, Diarrhoea, Bloody diarrhoea, Listless, Walking difficulty	No Data	Suspected Adverse Reaction. On 11 Feb 2015 the dog was vaccinated with Nobivac DHP and Nobivac L4. 4 hours later the dog developed swelling at the injection site, was squeaking and had difficulty walking, didn't want to be touched and was more listless than usual. The owner gave the dog a tablet Carprol (carprofen) but then still took the dog to the vet. The vet treated the dog with Buprecaire (buprenorphine) and dexamethasone. The next day the dog was a bit better and 2-3 days later the swelling was completely gone. On 13 Feb 2015 the dog developed diarrhoea and the next day there was also blood in the diarrhoea. Unknown if the dog was treated for this or if the dog recovered. The dog has a history of bowel problems. When the dog was vaccinated as a pup the dog also reacted to Nobivac L4. See case 2014-NL-00063. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 610 Reason: Unknown.] [State of health: Unknown]	Other Canine/dog	Not Known	Nobivac DHP - 1,N/A,N/A, 24,1 Dose Once (11/02/2015-11/02/2015) Nobivac L4 SUSPENSION FOR INJECTION - 1,N/A,N/A, 24,1 Dose (11/02/2015-11/02/2015) 	0 - Possible	CA agrees with MAH causality assessments and comments
NOBIVAC L4	NL-NLINTVINT-2015-NL-00114	Netherlands	Animal	Canine/dog	5.5 Year(s)	30/01/2015	10/03/2015	1	1	0	30/01/2015	Yes	Hypercalcaemia, Polyuria, Not eating, Confused, Elevated BUN, Elevated creatinine, Polydipsia	No Data	Suspected Adverse Reaction. On 30 Jan 2015 the dog was vaccinated with Nobivac L4 and on 27 Feb 2015 the dog received a booster vaccination of Nobivac L4. Somewhere between the first and second vaccination (unknown when exactly) the dog developed polyuria and polydipsia and was eating less. The dog also became picky when it comes to food, only wants to eat certain things. The dog also seemed to be confused, e.g. would stand in front of the wrong door. On 9 Mar 2015 the vet did a blood test and the results showed the dog had elevated ureum and creatinine and calcium. The cortisol level was normal. On 10 Mar 2015 the owner took the dog to another vet, no information available about what happened there. No further information expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination] [State of health: Unknown]	American Bulldog	Not Known	Nobivac L4 - 1,N/A,N/A, 24,1 Dose Twice (30/01/2015-30/01/2015) 	0 - Unclassifiable/unassessable	Not known what the time to onset of signs was after 1th vaccination, no cause for elevated creatini, BUN, calcium known. Product association cannot be excluded but not enough information to draw sufficient conclusions. Therefore causality 0.

NOBIVAC L4	NLD-MERCKMSD-2017-NL-00957	Netherlands	Animal	Canine/dog	14 Week(s)	01/09/2017	04/09/2017	1	1	1	0	02/09/2017	Yes; R- Yes	Leucocytosis,Vomiting,Dull,Increased salivation,Elevated C-reactive protein,Elevated temperature	No Data	Suspected Adverse Reaction. On 1 Sep 2017, a 14 weeks old puppy dog was vaccinated with Nobivac DHP and Nobivac L4. The next day, the dog became very dull and vomited once. Another day later (3 Sep 2017) the dog was still very dull and presented to the vet, who observed the following: T=40.8, increased salivation and dullness. The dog was treated with Cerenia, Rimadyl, glucose and infuse. That evening the dog did eat some dog food and the body temperature dropped to T=38.4. The following morning, however, the temperature was up again to T=40.2, where after the dog was hospitalized for treatment with infuse and Rimadyl. The next day (5 Sep 2017) the dog was doing a little better (body temperature had dropped again), however still much too calm compared to the dog's usual behavior. Blood tests are pending. The dog was adopted by its new owner at 10 weeks old and has not been sick nor received any treatments since then, besides vaccination with Nobivac L4 and Nobivac Parvo-C at the age of 11 weeks (no reactions observed then). Follow-up is pending. Follow-up on 13 Sep 2017: Blood test results: signs of inflammation (increased CRP and Leucocytes) at unknown location. Injection site of the vaccines is not red, swollen or warm. Pancreatitis excluded (normal cPLI values). In the meantime the dog has recovered. No more information is expected. Case has been upgraded to serious due to hospitalization and infusion. CA 10 October 2017: Changed Outcome Ongoing into Outcome Recovered, according to the information provided in the case narrative. Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 610 Reason: Vaccination Generic: LEPTO4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination [State of health: Good]	Crossbred	Not Known	Nobivac DHP - 1,N/A/N/A, 24,1 Dose 1 Animal (01/09/2017-01/09/2017) R- Nobivac L4, suspension for injection for dogs - 1,N/A/N/A, 24,1 Dose 1 Animal (01/09/2017-01/09/2017) R- 	O1 - Inconclusive	Close association in time (the next day). Clinical signs are partly mentioned in the SPC of the VMP. Vaccines are known to possibly cause or trigger systemic reactions. Multiple products used. Other causes are possible, like an underlying infection, but product involvement can not be fully excluded. Therefore causality O1 - Inconclusive
NOBIVAC L4	NLD-MERCKMSD-2017-NL-00967	Netherlands	Animal	Canine/dog	4 Month(s)	17/08/2017	07/09/2017	1	1	1	0	17/08/2017	Yes; R- Yes	Tachycardia,Urticaria,Dull,Swollen eye,Emesis (multiple),Lump	No Data	Suspected Adverse Reaction. On 17 Aug 2017, a dog was vaccinated with Nobivac DHP and Nobivac L4. A few hours later (chosen approximately 2 hours), the dog suddenly became dull, developed lumps all over the body and vomited a few times. The vet observed swollen eyelids, urticaria and tachycardia and treated the dog with an injection dexmethasone and with Tavegil. Within 2 hours after treatment the lumps had fully disappeared (chosen approx. 2 hours as duration of signs). At the age of 9 weeks, the dog was vaccinated with Nobivac Parvo- C and Nobivac L4 without problems (the owner forgot to bring the dog back in for follow-up vaccinations at the age of 12 weeks). No more information is expected. Reason for use for product: Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 610 Reason: Vaccination Generic: LEPTO4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination [State of health: Good]	Miniature Dachshund	3.6	Nobivac DHP - 1,N/A/N/A, 24,1 Dose 1 Animal (17/08/2017-17/08/2017) R- Nobivac L4, suspension for injection for dogs - 1,N/A/N/A, 24,1 Dose 1 Animal (17/08/2017-17/08/2017) R- 	O - Possible	CA agrees with causality assessment and comments of the MAH. Causality B - Possible
NOBIVAC L4	NLD-MERCKMSD-2017-NL-00973	Netherlands	Animal	Canine/dog	12 Month(s)	09/11/2016	23/10/2017	1	1	1	1	02/09/2017	Yes; R- Yes; R- Yes; R- Yes; R-> Yes; R-> Yes	Death by euthanasia,Lack of efficacy	No Data	Suspected Lack of Expected Efficacy against Leptospirosis. On 30 Nov 2016, at 12 weeks old, a dog had received the second inoculation of a twofold basic vaccination with Nobivac L4 (simultaneously administered with Nobivac DHP). The first inoculation with Nobivac L4 took place 3 weeks earlier on 9 Nov 2016 (simultaneously administered with vaccine Nobivac Parvo-C and concurrently with the intranasal vaccination with Nobivac KC). On 4 Sep 2017, the dog (almost 1 year old) was presented to the vet. It had not eaten for 2 days and when it finally ate something he vomited 3 to 4 times. The dog had also difficulty walking. Examination by vet: dull, pink mucous membranes, lame at right hind leg. On an X-ray image of the abdomen, no signs of ileus or obstruction were observed. Treated with Emergid and Carporal. The next day the condition of the dog had not improved and was presented to the vet again: vomiting, anuria. Blood test results: neutrophilia and strongly elevated liver and kidney values. Differential diagnosis: leptospirosis, intoxication, (Addison disease). The dog was hospitalized and treated with infuse, Emergid, and Norocla. Because the dog didn't improve, the dog was sent to the specialist (academic veterinary hospital) on 6 Sep 2017. There the following was concluded after more investigations: anuria despite diuretics. Signs of acute kidney failure due to Leptospirosis (positive in ELISA and PCR). The dog was euthanised because of his poor health condition in combination with a poor prognosis. In an attempt to find out which sero-type of Leptospira was involved, serum of the dog that was stored at the reporting vet's clinic was tested by means of MAT. Result: negative for all (7) tested serovars (L. Bratislava test was not available). It is currently unclear if the earlier positive PCR test was performed on a urine or serum sample. Additional information requested. At the moment, also serum and urine of (human) members of the family of the dog is being tested (they have been swimming in the same water as the dog). Results are awaited. Follow-up 19 Sep 2017: Correction: only blood was tested in the PCR (urine not tested), however the Leptospirosis PCR was negative (not positive). The ELISA was very highly positive for IgM antibodies against Leptospirosis. More tests are planned on the serum. Follow-up information on 23 Oct 2017: no more information available. No more information expected. Reason for use for product: Generic: LEPTO4(ICT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10XIDS 547 Reason: Vaccination Generic: DHP LV Brand: NOBIVAC DHP 10XIDS 610 Reason: Vaccination Generic: CANINE PARVO LV Brand: NOBIVAC PARVO-C 10XIDS 610 Reason: Vaccination Generic: BB CANINE / PI LB/LV Brand: NOBIVAC	Labrador Retriever	24.8	Nobivac DHP - 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (30/11/2016-30/11/2016) R- Nobivac KC - 4,N/A/N/A, 10,0 4 ml Not applicable 1 Animal (09/11/2016-09/11/2016) R- Nobivac L4, suspension for injection for dogs - 1,N/A/3 Weeks,10,1 3 Weeks 1 Animal (09/11/2016-30/11/2016) R- Nobivac Parvo-C - 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (09/11/2016-09/11/2016) R- 	B - Possible	There is an association in time (signs started 9 months after correct vaccination according SPC within expected DO). The PCR result of blood was negative for Leptospira. Result MAT test: serum of the dog was negative for all tested Leptospira serovars, albeit L. Bratislava test was not performed. Time of sampling date was 5 September, one day before the date the dog was presented to the vet and already was ill for 2 days. This date could be quite short for interpreting a MAT result. No paired serum samples available. The clinical signs and high IgM could indicate a probable infection with Leptospira. Therefore, causality B - Possible
NOBIVAC L4	NLD-MERCKMSD-2017-NL-01007	Netherlands	Animal	Canine/dog	10 Week(s)	21/09/2017	08/11/2017	1	1	1	1	24/09/2017	Not known; R-> Yes; R-> Yes; R-> Yes	Vocalization,Abdominal pain,Vomiting,Belching,Hepatic necrosis,Death,Hyperthermia,Weakness,Abnormal movement NOS,Not eating,Impaired consciousness,Involuntary movement,Door peripheral circulation,Walking difficulty,Abnormal necropsy finding,Dull	No Data	Suspected Adverse Reaction. A puppy dog was treated with Milbemax for deworming on 15 Sep 2017 and vaccinated with Nobivac L4 and Nobivac Parvo-C on 21 Sep 2017. On 24 Sep 2017 in the afternoon, the dog became dull, did not eat and vomited. The dog had a normal defecation and did still drink. On 25 Sep 2017 in the morning, the dog was presented to the vet: T=39.3, dog is not dehydrated, abdomen is flexible, no abdominal pain. The dog was injected with Cerenia and Metacam and sent home. Metacam for use at home was provided. In the afternoon, the dog had not vomited any more but was still very weak and was still not eating. The dog was hospitalized for the day and treated with Ringer lactate and glucose by infusion, subcutaneous administration of fluids and another Cerenia injection. The puppy reacted well to the treatments, was vivid again and had eaten a little bit. T=38.5. Therefore the dog was taken home. That same evening the dog had walked and defecated. During the night, the puppy became more and more quiet. On 26 Sep 2017 in the morning the puppy didn't walk anymore and was vocalizing. The dog was presented to the vet again: impaired consciousness, compulsive movements, abdomen very painful, T=37.9, dog was belching bloody fluid, impossible to place infuse (not enough volume of the veins). Fluid was administered subcutaneously. Dog was vomiting more and more fluids and started to make cycling movements, whereafter the dog was administered valium. The dog was calming down, however passed away shortly thereafter. According to the vet, the symptoms resembled a severe gastro-intestinal infection. Parvo-C test was performed: negative. Preliminary autopsy result dated 27 Sep 2017: pale liver with distinct zonal pattern. Follow-up is pending. UPDATE 2 Nov 2017: Follow-up on 5 Oct 2017: End conclusion of the autopsy: Peracute, massive liver necrosis. There are no indications for a infectious origin. Observed necropsy findings resemble an intoxication, of which the most common causes in dogs are: poisonous mushrooms (in particular Amanium spp.), blue algae intoxication and paracetamol overdose. Given the peracute necrosis of the liver, with hardly any (pathological) signs of inflammation, a causal relation with a 3-days earlier administered injection is excluded. This conclusion of the veterinary pathologist has been discussed with the dog owner, who is convinced that the dog can not have been exposed to paracetamol or wild mushrooms because the dog was walked on a leash. For the time of the year, it is very unlikely that the dog was exposed to blue algae. No further information is expected. 7-02-18 CA: HepatRA terms Hepatic necrosis, dull and Weakness added. Removed VedRA term Letnary according	Pug	2.77	Milbemax Tablet Dog - 1,N/A/1. Morethex/Amoxicillin mg/kg (15/09/2017-15/09/2017) R-> Nobivac L4, suspension for injection for dogs - 1,N/A/N/A, 10,1 ml Not applicable 1 Animal (21/09/2017-21/09/2017) R-> Nobivac Parvo-C - 1,N/A/N/A, 24,1 Dose Not applicable 1 Animal (21/09/2017-21/09/2017) R-> 	N - Unlikely	CA agrees with causality assessment and comments of the MAH. Causality N - Unlikely.

NOBIVAC L4	NLD-MERCOMSD-2018-NL-00174	Netherlands	Animal	Canine/dog	1 Year(s)	01/02/2017	22/02/2018	1	1	1	01/12/2017	Not Known	Lack of efficacy	Not Known	Case received via agency imported case (see case 2018-NL-00144). Suspected Lack of Expected Efficacy. The dog was diagnosed with Leptospirosis (confirmed with MAT test, Leptospira serovar Copenhageni). Dog showed icterus and was losing weight. Dog was vaccinated with Nobivac L4 ten months before. The dog was treated with Doxoral for 3 weeks, an injection of Genesia, prednisone, ZitaC and an injection of Duplocline after which the dog recovered from the Leptospirosis (unknown when exactly, estimated at Jan 2018). No further information expected. The dog developed loss of voice during the third week of treatment with Doxoral, see case 2018-NL-00144. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 547 Reason: Vaccination] [State of health: Unknown]	German Shepherd Dog	26	Nobivac L4, suspension for injection for dogs - 1,N/A,N/A, 24,1 Dose 1 Animal (01/02/2017-01/02/2017)-BR- 	O1 - Inconclusive	CA agrees with causality assessment and comments of the MAH. Causality O1-Inconclusive.
NOBIVAC L4	NLD-USMERIAL-17NL00051	Netherlands	Animal	Canine/dog	5 Year(s)	04/04/2017	05/04/2017	1	1	04/04/2017	Yes- R- Yes	Reddening of the skin,Pruritus	No Data	Report is reported by the veterinary technician dog Nera (Belgian shepherd, neutered female, born 22-08-2011, 26.9kg) received on the 4th of April 2017 around 16.00h a vaccination (Nobivac L4, batch A061AD1, expdate 12-2017) and also a chew Nexgard L (batchnr AA1474PA, exp date 12-2018). Around 19.30h the same day the dog experienced severe pruritus and redness of the skin, which persisted for almost 2 days. In the afternoon of the 6th of April Nera received almost normal again. [Reason for use for product: Generic: AFOXOLANER 136 MG CHEWABLE TABLETS Brand: NEXGARD (136 mg) kauwtabletten voor honden >25-50 kg Reason: Flea and Tick Treatment Generic: Brand: Nobivac L4 Reason: Routine vaccination] [State of health: Good]	Other Canine/dog	26.9	NEXGARD (136 mg) kauwtabletten voor honden >25-50 kg - 1,N/A,N/A, 24,1 Dose 1 Animal (04/04/2017-04/04/2017)-BR- Nobivac L4 - 1,N/A,N/A, 24,1 Dose 1 Animal (1 Day(s) 04/04/2017-04/04/2017)-BR- 			
NOBIVAC L4	NO-NONOMA-2017-8679	Norway	Animal	Canine/dog	Not Known	01/01/2017	29/06/2017	1	1	01/01/2017	Yes- R- Yes	Injection site swelling,Lethargy (see also Central nervous system depression in "Neurological"),Vomiting,Diarrhoea	No Data	The report is sparse in information. One dog vaccinated With Nobivac L4 and Nobivac DHPPi. The dog developed lethargy, vomiting, diarrhoea and a local subcutaneous swelling at the injection site (3cm in diameter). No further information is given in the report.	Not Applicable	Not Known	Nobivac DHPPi vet - 1,N/A,N/A,10,N/A (01/01/2017- N/A)-BR- Nobivac L4, suspension for injection for dogs - 1,N/A,N/A,10,N/A (01/01/2017- N/A)-BR- 	B - Possible	Local swelling is a well known ADR according to the SPC.	
NOBIVAC L4	No-Noroma-2015-9322	Norway	Animal	Canine/dog	2 Year(s)	27/06/2015	01/07/2015	1	1	27/06/2015	Yes- R- Yes	Weak pulse,Tachycardia,Pale mucous membrane,Angioedema,Abnormal breathing,Circulatory collapse (see also "Neurological" and "Systemic disorders"),Red mucosa,Decreased body temperature,Lethargy (see also Central nervous system depression in "Neurological"),Anaphylactic shock	No Data	The dog was vaccinated With Nobivac DHPPi + Nobivac L4, general health good. Five minutes after vaccination the owner comes back With the dog who had collapsed outside. Mucosa white almost bluish. Weak pulse, HR approx 200bpm. Uneven HR, very lethargic. T 37.3C. Treatment With Iv. NaCl, adrenalin, Oxygen-mask. Keep warm. The dog responded and HR was 100 bpm, T 38.9. Two hours later the dog deteriorated: mucosal membranes became dark red, skin around eyes and muzzle swelled and the HR 200bpm, fast respiration. Another bolus of Iv. fluid, Pennevil, diclofenac. 15 minutes later the HR was reduced to 120 bpm and the mucous membranes became lighter red. Better pulse quality. The dog seemed quicker and was urinating normally. The dog was sent to an ICU in another clinic. At departure the HR was 160 bpm, T 38.9C and mucosal membranes lighter/better coloured.	Not Applicable	1.75	Nobivac DHPPi - 1,N/A,N/A,10,N/A (27/06/2015-N/A)-BR- Nobivac L4, suspension for injection for dogs 1,N/A,N/A,10,N/A (27/06/2015-N/A)-BR- 	A - Probable		
NOBIVAC L4	No-Nonoma-2016-10795	Norway	Animal	Canine/dog	4.5 Year(s)	25/08/2016	26/08/2016	1	1	26/08/2016	Yes- R- Yes	Restlessness,Erythema (for urticaria see Immune SOC),Angioedema,Ocular discharge	No Data	This healthy dog was vaccinated With Nobivac Pi and L4 approx 7 o'clock in the afternoon on August 25. During the evening the head started to swell. Approx 5 o'clock in the morning the dog was taken to the veterinarian. The swelling in the head was pronounced, erythema around the eyes and submandibule the dog made "smacking" sounds and was stressed. Yellow discharge from right eye. Normal temp and alert. The dog was treated With diphenhydramine 2 mg/ml i.m. One hour later the dog had improved, the swelling was reduced and the dog was sent home.	Crossbred	10.9	Nobivac L4, suspension for injection for dogs - N/A,N/A,N/A, N/A,N/A (25/08/2016-N/A)-BR- Nobivac Pi - N/A,N/A,N/A, N/A,N/A (25/08/2016-N/A)-BR- 	A - Probable		
NOBIVAC L4	No-Nonoma-2016-3861	Norway	Animal	Canine/dog	Not Known	10/03/2016	16/03/2016	1	1	10/03/2016	Yes- R- Yes	Angioedema,Lethargy (see also Central nervous system depression in "Neurological"),Anaphylactic shock	No Data	The dog was in general good health and was vaccinated With Nobivac DHPPi and Nobivac L4 in the same dose. Approx 15 minutes later the dog shows signs of hypovolemic shock and has drop in blood pressure. The dog is treated With i.v. fluids and cortisone. After approx one hour swellings started to appear around the eyes and muzzle. The day after, the dog is still lethargic, but much better. Still some swellings in the head, and the dog is still. 6.6.2016 - revised: date of vaccination was 10.3.2016 (Not 11.3.2016 as first described)	English Cocker Spaniel	11.5	Nobivac DHPPi - N/A,N/A,N/A, N/A,N/A (10/03/2016- N/A)-BR- Nobivac L4 - N/A,N/A,N/A, N/A,N/A (10/03/2016- N/A)-BR- 	A - Probable	Both Components likely to have contributed to the reaction.	
NOBIVAC L4	NoNonoma-2016-0942	Norway	Animal	Canine/dog	5.6 Year(s)	05/01/2016	18/01/2016	1	1	01/01/2016	No- R- No	Injection site swelling	Not Known	The dog was vaccinated With Rabins vet and Nobivac L4 on January 5, 2016. On January 13 the dog is seen by vet due to a swelling at the injection site of vaccines. The swelling has the size of a tennisball and is filled with fluid. The cyst has two Chambers. 20 millilitres of serous fluid is drained from the cyst. The vet is referring to swelling caused by Rabins With the comment that this is not uncommon.	Small Munsterlander	27.2	Nobivac L4, suspension for injection for dogs - 1,N/A,N/A,10,N/A (05/01/2016-N/A)-BR- Rabins vet - 1,N/A,N/A,10,N/A (05/01/2016- N/A)-BR- 	A - Probable	Injection site swellings, also fluid filled, are not uncommon after vaccination. It is not possible to say which vaccine, or if both together, caused the swelling. However it is considered A-Probable that vaccination caused the reaction.	
NOBIVAC L4	PL-NLINTVINT-2014-PL-00085	Poland	Animal	Canine/dog	6 Year(s)	10/03/2014	19/03/2014	1	1	03/03/2014	Yes- R- Yes	Behavioural disorder NOS,Vomiting,Erythema (for urticaria see Immune SOC),Pruritus,Lump,Localised oedema (not application site)	No Data	Suspected adverse reaction. Dog has history of few episodes of vomiting and indigestion, but diagnosis was not performed. Animal Nobivac L4, Nobivac DHPPi and Nobivac Rabies. After administration there was no reaction. Three days after administration nodules appeared in scrotum area, erythema in area of the armpits and groin area. After a few hours on whole body area. Very strong pruritus, animal was behaving like burned. Vomiting. Oedema of the one side of the muzzle. Dog received short acting steroid, in third day of the reaction Calort was administered. After 15 minutes reaction started to recede and needed faly, dog recovered. No more information is expected. [Reason for use for product: Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 584 Reason: Vaccination Generic: DHPPi LV Brand: NOBIVAC DHPPi 10X1DS 410 Reason: Vaccination Generic: RABIES IN ALU ADLUVANT KV Brand: NOBIVAC RABIES 10X1DS 410 Reason: Vaccination] [State of health: Good]	Other Canine/dog	Not Known	NOBIVAC DHPPi 10X1DS 410 - 1,N/A,N/A, 24,1 Dose Once 1 Animal (10/03/2014-10/03/2014)-BR- Nobivac L4 10X1DS 584 - 1,N/A,N/A, 24,1 Dose Once 1 Animal (10/03/2014-10/03/2014)-BR- Nobivac DHPPi 10X1DS 410 - 1,N/A,N/A, 24,1 Dose Once 1 Animal (10/03/2014-10/03/2014)-BR- 	O - Unclassifiable/unassessable		
NOBIVAC L4	PL-NLINTVINT-2014-PL-00109	Poland	Animal	Canine/dog	45 Month(s)	21/02/2014	26/03/2014	3	1	01/02/2014	Yes- R- Yes	Vomiting,Itching,Stomach pain,Swollen face (see also "Skin")	No Data	Suspected Adverse Reaction. Three dogs from the same breeding were vaccinated at 16:20 (10 minutes earlier vaccines was taken out from fridge). In one of them face area swelling and itch occurred about 2 hours after vaccine administration. Then vomiting and severe stomach ache occurred about 20:00. Dog was brought to vet clinic on 22-FEB-2014. Treatment was done with Rapideon (dexamethasone sodium phosphate) and No-Spa (drotaverin hydrochloridum). No-Spa injection was repeated evening. All signs gone. No further information expected. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC DHPPi 10X1DS 410 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 584 Reason: Unknown.] [State of health: Good]	Miniature Schnauzer	Not Known	NOBIVAC DHPPi 10X1DS 410 - 1,N/A,N/A, 24,1 Dosage form Once 1 Animal (21/02/2014-21/02/2014)-BR- Nobivac L4 10X1DS 584 - 1,N/A,N/A, 24,1 Dosage form Once 1 Animal (21/02/2014-21/02/2014)-BR- 	B - Possible		
NOBIVAC L4	PL-NLINTVINT-2014-PL-00321	Poland	Animal	Canine/dog	10.5 Week(s)	29/09/2014	29/09/2014	1	1	09/09/2014	Yes- R- No	Injection site pain,Abdominal pain,Diarrhoea,Blood in faeces,Decreased activity	Other	Suspected Adverse Reaction. Dog was brought to the clinic for its first vaccination, no changes in clinical examination. 30-60 minutes after Nobivac DHPPi with L4 administration diarrhoea with small amount of blood and mucus occurred. Dog became silent (not active as usually) and had painful abdomen. In clinical examination: dog was sad and had a pain in site of injection (right flank). No more changes in examination stated. After Buprenorphine subcutaneous and Pro-Kolin oral administration all signs had gone within few hours. No further information expected. [Reason for use for product: Generic: DHPPi LV Brand: NOBIVAC DHPPi 10X1DS 410 Reason: First vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 584 Reason: First vaccination] [State of health: Good]	Yorkshire Terrier	1.38	NOBIVAC DHPPi 10X1DS 410 - 1,N/A,N/A, 24,1 Dosage form Once 1 Animal (29/09/2014-29/09/2014)-BR- Nobivac L4 10X1DS 584 - 1,N/A,N/A, 24,1 Dosage form Once 1 Animal (29/09/2014-29/09/2014)-BR- 	B - Possible		
NOBIVAC L4	PL-NLINTVINT-2014-PL-00387	Poland	Animal	Canine/dog	6 Year(s)	13/12/2014	08/01/2015	1	1	06/12/2014	Not Known, >BR- Not Known, >BR- Not Known	Dyspnoea,Nasal discharge,Sneezing	Not Known	Suspected adverse reaction. During visit in the clinic dog received Nobivac KC and Nobivac DHPPi. Nobivac L4 (nose injection in the neck area) and Nobivac DHPPi (injection in the scroon) (Cocker Spaniel) of the owner was vaccinated without AEs. Three days after vaccination shorting, attacks of (nasal) dyspnoea, increasing on evenings, nasal serous discharge, during dyspnoea attacks discharge increases, temperature 38.7-39.2 (mean during 3 consecutive visits), state of being normal, appetite normal. Around 18 Dec 2014 signs were not receding and treatment was initiated doxycycline, Catosal, Lydium H.P. During last visit 19 Dec 2014 animal owner informed that before vaccination she noticed that dog of the neighbor was coughing as well (but she did not report that earlier to the vet). On 21 Dec 2014 attending vet received information from the owner's son: there is slight amelioration of the patient clinical status, quotation "sometimes is better, sometimes is worse". Animal owner scheduled control visit before Christmas. Follow up on 08 Jan 2015: Attending veterinarian informed that patient is in good condition, since a week there were no disturbing signs. Treatment was performed for 20 days with Doxycycline administered twice daily. No more information is expected. [Reason for use for product: Generic: BB CANINE / P/ LB/LV Brand: NOBIVAC KC 5X1DS+5X1DS DIL 410 Reason: Vaccination Generic: DHP LV Brand: NOBIVAC DHP 10X1DS 410 Reason: Vaccination Generic: LEPTO*4(CT,CAN,GRIPP,BRAT) KB Brand: NOBIVAC L4 10X1DS 584 Reason: Vaccination] [State of health: Good]	Yorkshire Terrier	3.8	NOBIVAC DHP 10X1DS 410 - N/A,N/A,N/A, 24,1 Unknown Once 1 Animal (13/12/2014-13/12/2014)-BR- Nobivac KC 5X1DS+5X1DS DIL 410 - N/A,N/A,N/A, 24,1 Unknown Once 1 Animal (13/12/2014-13/12/2014)-BR- Nobivac L4 10X1DS 584 - N/A,N/A,N/A, 24,1 Unknown Once 1 Animal (13/12/2014-13/12/2014)-BR- 	N - Unlikely		

NOBIVAC L4	UK-NLLEVET-Metrobactin-20171103	United Kingdom	Animal	Canine/dog	8 Year(s)	14/09/2017	08/11/2017	1	1	0	20/09/2017	No. R- Not Known	Hepatitis,Hepatopathy,Elevated liver enzymes,Elevated AST,Elevated ALT,Elevated bile acids,Elevated SAP,liver degeneration,Elevated cholesterol (total)	Not Known	Previous clinical history: Dog not previously had any metronidazole. 11th August 2017: Dog had booster of Nobivac Dhp and started course of Nobivac Lepto 4. Dog has bad dental disease. 14th September 2017: Dog in for second vaccination of Nobivac Lepto 4, dog has bad teeth gingivitis with pus. Vet started the dog on 125 mg (1/2 250 mg tablet) Metrobactin BID for 10 days. Dog is 7.7 age- 16.2 mg/kg BID. Dog was given the whole course with no reported problems by the owner. Adverse reaction: 20th September 2017: Dog in for pre-anaesthetic bloods- manual PCV 54%, ALT 345 (10-118), Urea 3.7, ALKP 118 (20-150). Owner reports no polyuria or polydipsia, always a fussy eater, no concerns about gastrointestinal tract (only had one bout of colic last year). Haematology and SDMA normal. Idiosyncratic elevated liver parameters show evidence of a hepatopathy with no evidence of hepatic functional impairment, but doesn't rule out grumbling hepatitis. Could also be primary or secondary liver disease, unlikely related to Metrobactin, couldn't rule out being secondary to dental disease. Postponed dental surgery. 11th October 2017: Scan (kind of scan not further specified)- all normal, suspect ALT elevation secondary to periodontitis. 20th October 2017: Dog has been fine, eating well. Pre- anaesthetic bloods: ALT 275, ALKP 516, AST 167, GGT 4, cholesterol 11. Bile acid stimulation test: pre prandial 63.9, post prandial 110. Dog sent home on Noroclav 125 mg BID, 75 mg Desitol BID and Denamarin (unknown dose, nutritional supplement) and Hills I/D diet. 26th October 2017: Owner reports dog is fine. Blood clotting and albumin both fine. 2nd November 2017: Liver scan (kind of scan not further specified) all within normal limits. Restarted Noroclav 125 mg BID. Dog seems fine, won't eat the liver diet. 3rd November 2017: Lab report (probably results from biopsy-histology, but date of performance of biopsy is not reported): no neoplasia, acute hepatocellular degeneration with hepatitis (diffuse and reversible) secondary to extra hepatic disease, no primary hepatitis. The degeneration is probably caused by some extra hepatic metabolic or toxic insult. It could be an idiosyncratic reaction to metronidazole. Dog has also been in vicinity of a product called "Roundup"- a weed killer, which is associated with hepatotoxicity. Follow up information (received 08-11-2017): Amended narrative with new information included: Dog not previously had any Metronidazole. 11th August 2017: Dog had booster of Nobivac Dhp and started course of Nobivac Lepto 4. Dog has bad dental disease. 14th September 2017: Dog in for second vaccination of Nobivac Lepto 4, dog has bad teeth, gingivitis with pus. Vet started the dog on 125 mg (1/2 250 mg tablet) Metrobactin BID for 10	Lhasa Apso	7.7	Metrobactin 250 mg Tablets for Dogs and Cats - 125,1,12 Hours,3.0,5 tablet (16.2 mg/kg) BID (10 Day(s) 14/09/2017- 24/09/2017)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A/N/A (14/09/2017- N/A)-BR->BR->	O1 - Inconclusive	Hepatotoxicity is not expected following vaccination. However it is a known adverse effect of metronidazole which was given concurrently. Dog has also been in vicinity of a product called "Roundup"- a weed killer, which is associated with hepatotoxicity. Cannot exclude product involvement however due to confounding factors, the assessment is inconclusive
NOBIVAC L4	UK-VMD-0002/16	United Kingdom	Animal	Canine/dog	14 Year(s)	03/11/2015	04/01/2016	2	1	0	03/11/2015	Yes	Restlessness,Injection site irritation,Rolling	No Data	Injection site irritation, rolling on back, unsettled at night (coded as restlessness) within 24 hours of vaccination. Clinical signs resolved within 4 weeks without treatment, no previous reaction or exposure. Nothing further.	Other Canine/dog	15	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1ml (03/11/2015-N/A)-BR->BR->	A - Probable	Injection site irritation is known to occur following vaccination, this is most likely explanation of the rolling on back. The periods of restlessness at night have a close time association with the vaccination, and are therefore possible. Overall, coded A.
NOBIVAC L4	UK-VMD-0008/17	United Kingdom	Animal	Canine/dog	3.45 Month(s)	23/11/2016	11/01/2017	1	1	1	30/12/2016	Not Known, Not Known	Vomiting,Renal failure,Death,Inappetence,Decreased body temperature,Lethargy (see also Central nervous system depression in "Neurological"),Elevated creatinine	Not Known	Within 8 days of the final dose in the vaccination course, she went off her food, was vomiting and became very lethargic. Temperature low, creatinine levels high. Treated with intravenous fluid therapy. Within 10 days of administration went into kidney failure. Previous reaction: Nothing further.	Labrador Retriever	9.8	Nobivac DHPH, Lyophilisate and Solvent for Suspension for Injection for Dogs - N/A/N/A/N/A, N/A,1 ml (N/A-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A,First jab 23/11/16 A055A02 followed by final nobivac L4 on 22/12/16 injected into back of the neck (23/11/2016- 22/12/2016)-BR->BR->	B - Possible	Temporal association between administration and symptoms. Renal failure is not a known adverse event following vaccination with this product.
NOBIVAC L4	UK-VMD-0020/15	United Kingdom	Animal	Canine/dog	1.25 Year(s)	30/12/2014	05/01/2015	1	1	0	01/01/2015	Not Known	Injection site warmth,Injection site lump,Injection site pain,Lethargy (see also Central nervous system depression in "Neurological"),Dysuria	Not Known	Injection site lump, warmth and pain 48 hours after vaccination administration. Five days after vaccination lethargic and pyrexia. Unknown treatment commenced, outcome unknown. Nothing further.	King Charles Spaniel	5.7	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1ml followed by 1 ml 4 weeks later (30/12/2014-N/A)-BR->BR->	A - Probable	Injection site reactions may occur after administration of the product.
NOBIVAC L4	UK-VMD-0034/17	United Kingdom	Animal	Canine/dog	2.7 Month(s)	04/01/2017	11/01/2017	1	1	0	04/01/2017	Not Known, Not Known	Facial swelling (see also "Skin"),Pruritic erythema,Swelling around eye	Not Known	Swelling around eyes and nose and erythema of ears within 1 hour of administration. No previous exposure. Outcome unknown. Nothing further.	Shetland Sheepdog	2.27	Nobivac DHP - N/A/N/A/N/A, N/A,DHP and L4 mixed vaccine (04/01/2017- 04/01/2017)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A,DHP and L4 mixed vaccine (04/01/2017- 04/01/2017)-BR->BR->	B - Possible	Temporal association between administration and symptoms. In very rare cases a transient acute hypersensitivity reaction may occur. Symptoms consistent with such a reaction. Multiple products used.
NOBIVAC L4	UK-VMD-0037/16	United Kingdom	Animal	Canine/dog	5.92 Year(s)	09/12/2015	06/01/2016	1	1	0	09/12/2015	Not Known	Injection site swelling	Not Known	Injection site swelling noticed within 24 hours post vaccination. Lump still present 5 weeks later when dog presented for 2nd dose vaccination. No treatment given, outcome unknown.	Labrador Retriever	37.6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1ml (09/12/2015-N/A)-BR->BR->	A - Probable	Close time and anatomical association, unexpected for it to last this long.
NOBIVAC L4	UK-VMD-0040/15	United Kingdom	Animal	Canine/dog	1.4 Year(s)	06/01/2015	06/01/2015	1	1	0	06/01/2015	Not Known, Not Known	Facial swelling (see also "Skin"),Urticarial erythema,Allergic pruritus	Not Known	Allergic pruritus, allergic oedema and urticaria of the face, lips and around the eyes within 6 hours post vaccination. Recovery an unspecified period later following unspecified treatment.	Maltese	2.7	Nobivac DHP - 1,N/A,N/A, 24,Single dose of each product (Lepto and DHP given S/C, KC given intranasal) (06/01/2015-N/A)-BR->BR->Nobivac KC - 1,N/A,N/A, 24,N/A (06/01/2015-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,N/A (06/01/2015-N/A)-BR->BR->	B - Possible	Possible hypersensitivity reaction but multiple products administered.
NOBIVAC L4	UK-VMD-0042/17	United Kingdom	Animal	Canine/dog	3.33 Year(s)	02/01/2017	12/01/2017	1	1	0	04/01/2017	Not Known	Distress,Behavioural disorder NOS,Apprehension,Crying,Circulatory collapse (see also "Neurological" and "Systemic disorders"),Inappropriate defecation	Not Known	Collapse with crying then bowel release (coded as inappropriate defecation) within 48 hours of vaccination. After one minute he awoke, dazed (coded as Behavioural disorder NOS) and scared (coded as apprehension). No previous exposure. Recovered without treatment. Nothing further.	Dogue de Bordeaux	47	Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A,N/A (02/01/2017-N/A)-BR->BR->	B - Possible	Temporal relationship between administration and symptoms. Similar symptoms have been seen following use of this product, however other causes cannot be excluded.
NOBIVAC L4	UK-VMD-0042/18	United Kingdom	Animal	Canine/dog	1.2 Year(s)	03/01/2018	03/01/2018	1	1	0	03/01/2018	Not Known, Not Known	Facial oedema	Not Known	Facial oedema less than 6 hours after vaccination. Outcome unknown.	English Cocker Spaniel	14	Nobivac DHP - N/A,N/A,N/A, N/A,DHP powder reconstituted with L4 suspension and resultant mixture, 1ml injected subcutaneously (03/01/2018-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A,N/A/N/A, N/A,N/A (03/01/2018-N/A)-BR->BR->	B - Possible	Timing/Clinical signs suggest product involvement. Two products administered
NOBIVAC L4	UK-VMD-0046/18	United Kingdom	Animal	Canine/dog	5.33 Year(s)	20/12/2017	09/01/2018	1	1	0	23/12/2017	Not Known, Not Known	Anxiety,Behavioural disorder NOS	Not Known	Three days after starting treatment with Apoquel and receiving Advocate spot on and Nobivac L4, the owner described the dog acting abnormally, taking herself away from the family, scratching at the flooring and seemed very anxious. The owner described the symptoms seemed to settle a little as she decreased the dose and stopped when the medication was stopped. The reaction lasted for 7 days.	Labrador Retriever	24.6	Advocate Spot-on Solution for Large Dogs - N/A/N/A/N/A, N/A,N/A (20/12/2017-N/A)-BR->BR->Apoquel 5.4mg Film-coated Tablet for Dogs - 5.4,2,12 Hours,3.5,4mg tablet 2 bid for 3 days then 2 sid for 4 days (7 Day(s) 20/12/2017- 27/12/2017)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A/N/A/N/A, N/A,N/A (20/12/2017-N/A)-BR->BR->	O1 - Inconclusive	The signs are not typical of a vaccine reaction although there could be a possible product link. Other products also used concurrently.

NOBIVAC L4	UK-VMD-2643/17	United Kingdom	Animal	Canine/dog	10.58 Year(s)	06/05/2017	02/06/2017	1	1	0	15/05/2017	Not Known	Injection site abscess,Injection site infection,Injection site swelling,Injection site pain	Not Known	Subcutaneous swelling approx 5cm noticed a few days ago at the site of injection. Painful on palpation. Subsequent abscessation and discharge of haemopurulent material. Outcome unknown.	West Highland White Terrier	8.6	Nobivac L4 Suspension for Injection for Dogs - N/A/N/A,N/A,N/A,First dose of this vaccination (05/05/2017-N/A)-BR->BR->	A - Probable	Timing/clinical signs suggest product involvement. One product administered
NOBIVAC L4	UK-VMD-2677/17	United Kingdom	Animal	Canine/dog	8 Year(s)	31/12/2016	22/06/2017	1	1	1	04/01/2017	Not Known	Low platelet count,Death by euthanasia,Inappetence,Lethargy (see also Central nervous system depression in "Neurological"),Pyrexia,Pallor,Immune mediated haemolytic anaemia,Decreased packed cell volume (PCV),Dull,Platelet disorder NOS	Not Known	Vaccinated on 31 Dec 2016 with Nobivac L4. On 6 Jan 2017 it presented with pyrexia (41.2), lethargic, dull and inappetent, PCV 19% and PLT 21 IMHA (immune mediated haemolytic anaemia) and IMPTI (Immune mediated thrombocytopenia) suspected, Ataxioprone, prednisolone and ranitidine started and IV fluids. On 8 Jan 2017 nibbling food, pallor, T39, PCV 17%. Owner declined further support attempts and requested PTS (put to sleep). 4 days to onset of signs, reaction duration 3 days and PTS. No more information expected. Follow up from NCA 22 Jun 2017 Signs started on 4 January, then on 6 Jan 2017 it was presented to the vet with the signs as reported in the initial narrative. No further information expected. NCA comment: Veddra terms "Platelet disorder NOS" and "Immune mediated haemolytic anaemia" are included to reflect case narrative.	English Springer Spaniel	21	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,10,1 ml Unknown 1 Animal (31/12/2016-N/A)-BR->BR->	B - Possible	Temporal association is strong (4 days), lethargy pyrexia and off food are expected after vaccination. The rest of the signs are not, however some vaccines are known to cause IMHA. This was not confirmed, however product involvement is possible. One vaccine administered
NOBIVAC L4	UK-VMD-2679/17	United Kingdom	Animal	Canine/dog	2 Month(s)	08/05/2017	24/05/2017	1	1	0	11/05/2017	Not Known, Not Known	Localised skin reaction,Lump	Not Known	Two pale cutaneous nodules appeared on face within 48 hours of administration, have decreased in size 2 weeks later. No pruritus. Follow up Case reported to MAH on 24 May 2017 Suspected adverse reaction - Vaccinated on 8 May 2017 with Nobivac DHPPI and L4. Reported on 11 May 2017 developed 2 pale cutaneous nodules on it's face within 48 hours of vaccination. 1-2 mm in size. No pruritus developed. When seen on 23 May 2017 for a second vaccination the nodules had almost disappeared. Unknown if second vaccine was given. No more information expected	Rhodesian Ridgeback	9	Nobivac DHPPI, Lyophilisate for Suspension for Injection for Dogs - 1,N/A,N/A,N/A,1 dose each of primary vaccine (08/05/2017-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,1 ml Unknown 1 Animal (08/05/2017-N/A)-BR->BR->	B - Possible	Signs are unexpected and localised to the face and timing does not indicate an anaphylactic reaction, however temporal association is strong and product involvement cannot be excluded.
NOBIVAC L4	UK-VMD-2686/17	United Kingdom	Animal	Canine/dog	16.36 Year(s)	22/05/2017	23/05/2017	1	1	0	22/05/2017	Not Known, Not Known	Eyelid oedema,Urticarial rash,Facial oedema	Not Known	Urticarial generalised facial oedema more so on right hand side and especially upper dorso-lateral eyelid margin. Did go out in mothers garden in afternoon so also possibly insect sting or plant reaction. Signs started less than 6 hours after vaccination, outcome unknown.	Chihuahua	1.54	Nobivac DHP - 1,N/A,N/A,N/A,1x dose (1x vial) (22/05/2017-N/A)-BR->BR->Nobivac KC - 1,N/A,N/A,N/A,N/A (22/05/2017-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A,N/A,N/A (22/05/2017-N/A)-BR->BR->	B - Possible	Timing/clinical signs suggest a possible hypersensitivity reaction to the vaccines. Three vaccines administered concurrently
NOBIVAC L4	UK-VMD-2706/17	United Kingdom	Animal	Canine/dog	9.45 Month(s)	25/04/2017	24/05/2017	1	1	0	25/04/2017	Not Known, Not Known	Blood in faeces,Loose stool	Not Known	Sloppy faeces, some spots of blood in. Owner didn't present to vets, resolved spontaneously in two weeks. Had previously had Nobivac L2 vaccine with previous Owner, no reported problems.	Siberian Husky	19.5	Nobivac KC - 1,N/A,N/A,N/A,N/A (25/04/2017-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,1 vial of each (25/04/2017-N/A)-BR->BR->	B - Possible	Timing/clinical signs suggest product involvement. Two products administered
NOBIVAC L4	UK-VMD-2710/17	United Kingdom	Animal	Canine/dog	1.17 Year(s)	24/05/2017	24/05/2017	1	1	0	24/05/2017	Not Known, Not Known	Facial swelling (see also 'Skin')	Not Known	Facial swelling less than half hour after administration. Outcome unknown.	Pug	9.3	Nobivac DHP - N/A,N/A,N/A,N/A,Reconstituted together as a booster (24/05/2017-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A,N/A,N/A (24/05/2017-N/A)-BR->BR->	B - Possible	Timing/clinical signs suggest a possible hypersensitivity reaction to the vaccine. Two products administered
NOBIVAC L4	UK-VMD-2718/16	United Kingdom	Animal	Canine/dog	1.52 Year(s)	14/01/2016	15/06/2016	3	1	0	28/01/2016	Yes, R->BR->BR->Yes	Diarrhoea,Vomiting,Panting,Appetite loss,Weight loss,Dehydration,Apnoea	No Data	Diarrhoea, emesis, weight loss, apnoea, tachypnoea, dehydration, anorexia in one of three within 14 days of vaccination. Details of previous reactions unknown. Reaction ongoing at time of report.	Crossbred	30	Nobivac DHP - 1,N/A,N/A,N/A,24,N/A (14/01/2016-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,24,Full dose (14/01/2016-N/A)-BR->BR->	O - Unclassifiable/unassessable	Not a close time association, and clinical signs are rather unspecific and may be due to another underlying condition. Further information required to rule out other conditions.
NOBIVAC L4	UK-VMD-2720/16	United Kingdom	Animal	Canine/dog	1.34 Year(s)	19/05/2016	16/06/2016	1	1	0	19/05/2016	Yes, R->BR->BR->Yes	Vomiting,Lethargy (see also Central nervous system depression in "Neurological"),Shaking	No Data	Lethargy, shaking, emesis within 30 minutes of administration. Recovery within 2 hours, no treatment given. No previous reaction. Nothing further.	Jack Russell Terrier	4.6	Nobivac DHP - 1,N/A,N/A,N/A,24,N/A (19/05/2016-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,24,DHPL4 administered as 1st booster at 13 months of age (19/05/2016-N/A)-BR->BR->	B - Possible	Timing and clinical signs suggest product involvement. As two products used, an association is possible.
NOBIVAC L4	UK-VMD-2725/15	United Kingdom	Animal	Canine/dog	Not Known	18/06/2015	23/06/2015	1	1	0	18/06/2015	Not Known, Not Known	Injection site pain	Not Known	Injection site pain on injection of Nobivac L4 and DHP. Treatment with Metacam 2 hours after vaccination and recovery within 12 hours. No further information expected.	Not Applicable	1.1	Nobivac DHP - 1,N/A,N/A,N/A,N/A (18/06/2015-18/06/2015)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,N/A (18/06/2015-N/A)-BR->BR->	B - Possible	Clinical signs are consistent with a product reaction but two products were used concurrently therefore impossible to say if one product or both products involved.
NOBIVAC L4	UK-VMD-2746/15	United Kingdom	Animal	Canine/dog	2 Month(s)	26/05/2015	23/06/2015	1	1	0	26/05/2015	Not Known	Injection site pain,Vocalisation	Not Known	Injection site pain and vocalisation less than 24 hours after Lepto 4 vaccination. Signs persisted for 2 days before recovery without treatment. Repetition of clinical signs on rechallenge persisting for 8 hours; recovery after unknown treatment. No further information expected.	Crossbred	1.07	Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A,N/A,N/A (26/05/2015-N/A)-BR->BR->	A - Probable	Signs are consistent with a probable product reaction, the temporal relationship is strong and the signs recurred on rechallenge.
NOBIVAC L4	UK-VMD-2755/15	United Kingdom	Animal	Canine/dog	6.59 Year(s)	10/06/2015	24/06/2015	1	1	0	10/06/2015	Not Known	Vomiting,Polydipsia,Malaise	Not Known	Suspected emesis within 6 hours post vaccination (fluid noted in bed) followed by malaise lasting for 2 weeks. Owner also noted polydipsia but also noted that the days were warmer. Recovery after 2 weeks following unspecified treatment.	Miniature Schnauzer	12.6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,One vial (10/06/2015-N/A)-BR->BR->	O1 - Inconclusive	Close time association but signs are non-specific and other causes are possible.
NOBIVAC L4	UK-VMD-2756/15	United Kingdom	Animal	Canine/dog	5.5 Year(s)	18/06/2015	25/06/2015	1	1	0	19/06/2015	Not Known, Not Known	Vocalisation,Injection site pain,Off colour,Reluctant to move	Not Known	Injection site pain, vocalisation and lethargy starting 6 hours post vaccination. No treatment given. Lethargy and injection site pain still ongoing the next day, treated with NSAIDs leading to recovery 24 hours later.	Cavalier King Charles Spaniel	9.9	Nobivac DHP - 1,N/A,N/A,N/A,24,1 Dose (18/06/2015-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,One vial (18/06/2015-N/A)-BR->BR->	B - Possible	Close time and anatomical association, known to cause injection site pain and swelling.
NOBIVAC L4	UK-VMD-2758/16	United Kingdom	Animal	Canine/dog	3 Month(s)	17/06/2016	18/06/2016	1	1	0	17/06/2016	Not Known, Not Known	Urticaria,Pruritus	Not Known	Urticaria and pruritus starting within 1 hour of Nobivac DHP and L4. Signs persisted for at least 24 hours. An unspecified treatment was given. Outcome unknown. No further information.	Bulldog	8	Nobivac DHP - 1,N/A,N/A,N/A,10,1ml reconstituted vaccine (17/06/2016-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A,N/A,N/A (17/06/2016-N/A)-BR->BR->	B - Possible	Signs may be consistent with a vaccine hypersensitivity but two vaccines were used together (unable to ascertain if one or both involved).
NOBIVAC L4	UK-VMD-2759/16	United Kingdom	Animal	Canine/dog	2 Month(s)	14/06/2016	18/06/2016	1	1	0	14/06/2016	Not Known, Not Known	Diarrhoea,Anorexia,Lethargy (see also Central nervous system depression in "Neurological"),Malaise,Dehydration	Not Known	Lethargy, anorexia and malaise in 1 of 2 puppies vaccinated within 12 hours of vaccination. Signs in the other puppy are described in 2838/16. Signs continued 4 days post vaccination. Dehydration and diarrhoea also noted. Symptomatic treatment given. Outcome unknown. No further information.	Labrador Retriever	5	Nobivac DHP - 1,N/A,N/A,N/A,one vial of L4 used to reconstitute DHP vaccine. (14/06/2016-N/A)-BR->BR->Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,N/A (14/06/2016-N/A)-BR->BR->	B - Possible	Clinical signs may be expected but prolonged nature is not typical. Two vaccines were used together; unable to say if one or both involved.

NOBIVAC L4	UK-VMD-3505/17	United Kingdom	Animal	Canine/dog	6.37 Year(s)	05/09/2014	08/07/2017	1	1	1	16/12/2014	Not Known	Autoimmune disorder NOS,Low platelet count,Fever,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Healthy dog who seemed an invincible. I noticed a change in her character. Lethargy mainly at first, the feeling of something was wrong made me decide to visit our local vet on the 16th Dec. Tilly had very high temperature and after antibiotics and a few days of no change only worsening of condition I took her back. We were then referred to Dick Whites New Market with a very very sick dog. Fever, lethargic many symptoms mimicking various problems. Main now being SLE (Systemic lupus erythematosus), nearly lost her twice. As I said on first reaction noticed. Tilly has SLE and has cost in the past 3 years possibly £15000 plus during which have been very touch and go with very low platelets She has battled against what I believe is an adverse reaction to Nobivac L4 and will never be quite the dog she was before. She was perfectly fit and healthy and seemed invincible however that soon changed and her health declined rapidly one / two months after. It's been terrible, fortunately insurance has helped but I am also in debt over this. Never ever will I have another dog injected with L4 sadly I trusted the vets advice to have her inoculated. I should have looked into it more. The last Three Years I have been travelling monthly to New Market for blood tests which itself has been a struggle. All her notes are mainly with DW of New Market and I would be happy if you wanted to view them.	English Cocker Spaniel	15	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,N/A (05/09/2014-N/A)-BR>BR>	O1 - Inconclusive	Fever and lethargy are commonly seen after vaccination, and immune mediated diseases have been associated with vaccination before, however, three months is a very long time to onset. Product involvement cannot be completely excluded, but some preexisting condition present cannot be ruled out either
NOBIVAC L4	UK-VMD-3506/15	United Kingdom	Animal	Canine/dog	10.67 Year(s)	10/07/2015	07/08/2015	1	1	1	11/07/2015	No, R> No, Not Known	Diarrhoea,Emesis	Not Known	Emesis and diarrhoea less than 24 hours after treatment with Nobivac L4 and Milbemax. Recovery after 2 days with no treatment. No further information expected.	Labrador Retriever	31.1	Milbemax Chewable Tablets for Dogs - 1,N/A,N/A,N/A,N/A (10/07/2015-N/A)-BR>BR>Milbemax Chewable Tablets for Small Dogs and Puppies - 1,N/A,N/A,N/A,N/A (10/07/2015-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,One vial of vaccine: 1 x Milbemax dog and 1 x Milbemax puppy tablet given that evening at home. (10/07/2015-N/A)-BR>BR>	O - Unclassifiable/unassessable	Multiple drugs given, sign is not expected, no diagnostics performed. Insufficient information for assessment.
NOBIVAC L4	UK-VMD-3509/14	United Kingdom	Animal	Canine/dog	8 Year(s)	30/07/2014	07/08/2014	1	1	1	31/07/2014	Not Known, > Not Known	Vocalisation,Head tilt - ear disorder,Circling - neurological disorder (see also 'Behavioural disorders'),Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Circling, head tilt, vocalisation, lethargy within 24 hours of vaccination administration. Treated with meloxicam for pain. No further information.	Not Applicable	8.4	Nobivac KC - 1,N/A,N/A, 24.1 Dose (30/07/2014-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A, 24.1 ml (30/07/2014-N/A)-BR>BR>	O1 - Inconclusive	
NOBIVAC L4	UK-VMD-3513/16	United Kingdom	Animal	Canine/dog	9.5 Year(s)	13/06/2016	28/07/2016	1	1	1	16/06/2016	Not Known, > Not Known	Autoimmune disorder NOS,Ataxia,Circulatory collapse (see also 'Neurological' and 'Systemic disorders')	Not Known	Collapse and ataxia starting 3 days post vaccination. Referral to university showed an inflammatory lesion on the spine which they suspect may be due to an underlying autoimmune response, but this has not been confirmed. Treatment is ongoing. No further information available.	Labrador Retriever	30	Nobivac DHPH - 1,N/A,N/A, 24,N/A (13/06/2016-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A, 1 vial (13/06/2016-N/A)-BR>BR>	O1 - Inconclusive	Close time association, but other causes are possible.
NOBIVAC L4	UK-VMD-3517/17	United Kingdom	Animal	Canine/dog	3 Month(s)	07/06/2017	10/07/2017	1	1	1	07/06/2017	Not Known, > Not Known	Aggression,Pain NOS,Vocalisation,Behavioural disorder NOS	Not Known	Growing when approached and very painful when stroked, became aggressive less than one hour after vaccination. Reaction duration 24 hours	Crossbred	4	Nobivac DHP - N/A,N/A,N/A,N/A (07/06/2017-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A,N/A (07/06/2017-N/A)-BR>BR>	B - Possible	Temporal association is strong, signs may be due to the pain following vaccination, which is a known side effect. Two products administered concurrently
NOBIVAC L4	UK-VMD-3544/16	United Kingdom	Animal	Canine/dog	12.02 Year(s)	22/07/2016	28/07/2016	1	1	1	24/07/2016	Yes, Not Known, > Not Known	Anaemia NOS,icterus,Death by euthanasia,Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Immune mediated haemolytic anaemia	No Data	Sudden onset jaundice, symptoms of IMHA, lethargy, anaemia, hyperthermia within 48 hours of vaccination. Treated with prednisolone and IVFT, leading to death by euthanasia 2 days later as no improvement. No previous reactions to this vaccine. Nothing further	Greyhound	25.4	Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A,N/A,N/A (22/07/2016-N/A)-BR>BR>Vetmedin 5 mg Chewable Tablets for Dogs - 1,2,1 Days,N/A,N/A,N/A,N/A-N/A)-BR>BR>carprofen unidentified - 100,1,1 Days,3,N/A,N/A,N/A)-BR>BR>	B - Possible	Close temporal association, IMHA possibly related to vaccination
NOBIVAC L4	UK-VMD-3558/15	United Kingdom	Animal	Canine/dog	3.5 Year(s)	18/05/2015	12/08/2015	1	1	1	25/05/2015	Not Known, > Not Known, > Not Known	Muscle degeneration,Muscle weakness NOS,Polymyositis	Not Known	Muscle loss and weakness of the masticatory muscles starting 1 week post vaccination. The vet was unsure if there were any early signs prior to vaccination. Suspected trigeminal neuritis. Unspecified treatment started, outcome unknown.	English Cocker Spaniel	12.6	Nobivac DHP - 1,N/A,N/A,N/A,One vial of each of the 3 vaccines (1 Day)(18/05/2015-N/A)-BR>BR>Nobivac KC - 1,N/A,N/A,N/A,1 vial of each of the 3 vaccines (18/05/2015-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,1 vial of each of the 3 vaccines (18/05/2015-N/A)-BR>BR>	O1 - Inconclusive	It is unclear if the signs had started prior to vaccination or not, masticatory muscle weakness has been reported previously following vaccination.
NOBIVAC L4	UK-VMD-3560/14	United Kingdom	Animal	Canine/dog	3.23 Year(s)	04/08/2014	08/08/2014	1	1	1	05/08/2014	Not Known	Restlessness,Haemorrhagic diarrhoea,Haematemesis,Blood in vomit,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Restlessness, haemorrhagic diarrhoea and haematemesis within 24 hours post vaccination. Lethargy noted on examination. Treated with Cerenia, antibiotics and a light diet. Recovery the next day.	Crossbred	39.5	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10.1ml (04/08/2014-N/A)-BR>BR>	O - Unclassifiable/unassessable	
NOBIVAC L4	UK-VMD-3575/15	United Kingdom	Animal	Canine/dog	1.25 Year(s)	16/07/2015	13/08/2015	1	1	1	22/07/2015	Not Known, > Not Known	Injection site crust,Injection site swelling,Desmal thickening,Injection site alopecia	Not Known	Injection site swelling 6 days post vaccination developing into area of thickened skin, crusting and alopecia. Still ongoing when checked 4 weeks later.	Shih Tzu	6.6	Nobivac DHP - 1,N/A,N/A, 24,N/A (16/07/2015-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A, 24,N/A (16/07/2015-N/A)-BR>BR>	B - Possible	Close anatomical association, injection site reactions are expected but the length of time is unexpected.
NOBIVAC L4	UK-VMD-3576/16	United Kingdom	Animal	Canine/dog	1.35 Year(s)	29/06/2016	01/08/2016	1	1	1	30/06/2016	Yes, Yes	Diarrhoea,Vomiting,Lethargy (see also Central nervous system depression in 'Neurological')	No Data	Acute onset emesis, diarrhoea, lethargy within 28-48 hours following vaccination. No treatment given, recovery within 2 days. No further information available.	Jack Russell Terrier	7.1	Nobivac DHP - 1,N/A,N/A, 24,N/A (29/06/2016-N/A)-BR>BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A, 24,N/A (29/06/2016-N/A)-BR>BR>	B - Possible	Close temporal association, clinical signs can occur following vaccination, two products used.
NOBIVAC L4	UK-VMD-3597/15	United Kingdom	Animal	Canine/dog	5.25 Year(s)	11/08/2015	13/08/2015	1	1	1	12/08/2015	Not Known, > Not Known, > Not Known	Lethargy (see also Central nervous system depression in 'Neurological'),Anorexia,Pyrexia	Not Known	Anorexia, pyrexia and lethargy starting less than 12 hours post Nobivac DHP and Nobivac L4 and an unknown time after Apoquel treatment. Signs had persisted for 2 days at the time of reporting, outcome unknown. An unknown treatment was given. No further information expected.	Jack Russell Terrier	8.95	Apoquel 5.4mg Film-coated Tablet for Dogs - N/A,N/A,N/A,N/A,N/A (11/08/2015-N/A)-BR>BR>Nobivac DHP - 1,N/A,N/A, 24,Given once. Full vial (11/08/2015-11/08/2015)-BR>BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A,N/A (11/08/2015-11/08/2015)-BR>BR>	B - Possible	Clinical signs are consistent with possible vaccine involvement; 2 other products were given concurrently including one other vaccination therefore the role of the other products cannot be excluded. Overall product involvement is possible.
NOBIVAC L4	UK-VMD-3599/16	United Kingdom	Animal	Canine/dog	13.42 Year(s)	19/09/2014	02/08/2016	1	1	1	19/09/2014	Yes	Blindness,Fit,Balance impaired	No Data	Blindness, ataxia, convulsion occurring during the three years following L4 vaccination. Had declined further investigation offered by VS. No further information available.	English Cocker Spaniel	12	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,Booster Vaccination in 2014 and 2015 (19/09/2014-N/A)-BR>BR>	N - Unlikely	Unlikely vaccine involvement; elderly dog and many other more likely causes of these clinical signs than related to vaccine.

NOBIVAC L4	UK-VMD-3601/15	United Kingdom	Animal	Canine/dog	6.33 Year(s)	17/07/2015	14/08/2015	1	1	0	17/07/2015	Not Known	Lethargy (see also Central nervous system depression in "Neurological"),Malaise	Not Known	Owner reported that the dog appeared "groggy", as if coming round from anaesthetic 6 hours post vaccination (coded as lethargy and malaise). Recovery 1 day later with no treatment.	Crossbred	6.5	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, N/A,One vial (17/07/2015-N/A)-BR>-BR>	B - Possible	Close time association and malaise and lethargy are known to occur.
NOBIVAC L4	UK-VMD-3619/15	United Kingdom	Animal	Canine/dog	8.17 Year(s)	03/08/2015	16/08/2015	1	1	0	06/08/2015	Not Known	Alopecia local	Not Known	Alopecia of the rump area starting 3 days post 1st dose vaccination. No treatment given, signs ongoing at time report made 10 days later. The dog has a history of allergic reactions to Advocate, other medications and some foods. Vet advised owner that there is no need for a second dose to be administered.	Crossbred	31	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,N/A (03/08/2015-N/A)-BR>-BR>	O1 - Inconclusive	Close time association but the signs are unexpected and the dog has an ongoing problem with allergic reactions and skin problems.
NOBIVAC L4	UK-VMD-3633/15	United Kingdom	Animal	Canine/dog	10 Year(s)	30/06/2015	17/08/2015	1	1	0	10/07/2015	Not Known, Not Known	Glossitis,Hypersalivation	Not Known	Glossitis, hypersalivation 5 weeks post vaccination. Similar signs the previous year within several days of vaccination; biopsies showed inflammation. Outcome unknown, no further information expected.	Border Collie	22	Nobivac DHPH - 1,N/A,N/A, 24,One vial of each DHP and L4 (30/06/2015-30/06/2015)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,One vial of each DHP and L4 (30/06/2015-30/06/2015)-BR>-BR>	No assessment performed	
NOBIVAC L4	UK-VMD-3640/15	United Kingdom	Animal	Canine/dog	7.33 Year(s)	07/08/2015	18/08/2015	1	1	0	07/08/2015	Not Known, Not Known	Anorexia,Lethargy (see also Central nervous system depression in "Neurological")	Not Known	Lethargy and inappetence less than 6 hours post vaccination. No treatment given, outcome unknown. No further information expected.	Miniature Schnauzer	8.1	Nobivac DHP - N/A,N/A,N/A, N/A,N/A (07/08/2015-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A, N/A,N/A (07/08/2015-N/A)-BR>-BR>	B - Possible	Clinical signs and onset are suggestive of product involvement, however 2 products were used concurrently therefore involvement is possible.
NOBIVAC L4	UK-VMD-3644/16	United Kingdom	Animal	Canine/dog	Not Known	03/08/2016	15/08/2016	4	1	0	03/08/2016	Yes, No Yes	Tachycardia,Lethargy (see also Central nervous system depression in "Neurological"),Anaphylaxis,Vomiting	No Data	Emesis, lethargy, tachycardia, heart rate between 192 to 201 /min within 30 minutes of vaccination in 1/4 treated suggesting anaphylaxis. No further information available, outcome unknown.	Miniature Dachshund	1.93	Nobivac DHP - 1,N/A,N/A, 10,1 ml (03/08/2016-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1 ml (03/08/2016-N/A)-BR>-BR>	B - Possible	Timing/clinical signs suggest vaccine related anaphylaxis.
NOBIVAC L4	UK-VMD-3646/15	United Kingdom	Animal	Canine/dog	11.5 Year(s)	11/08/2015	18/08/2015	1	1	0	13/08/2015	Not Known, Not Known	Pyrexia,Anorexia,Lethargy (see also Central nervous system depression in "Neurological"),Tachypnoea,Diarrhoea,Polypsia	Not Known	Tachypnoea, polydipsia, anorexia, lethargy, diarrhoea, pyrexia less than 48 hours after vaccination and an unknown time after starting meloxicam treatment. Treated with amoxiclav, improvement within 24 hours of starting antibiotics, recovery within 7 days. No further information expected.	German Shepherd Dog	43	Nobivac DHP - N/A,N/A,N/A, N/A,N/A (11/08/2015-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, N/A,One vial (11/08/2015-N/A)-BR>-BR>	O1 - Inconclusive	Clinical signs are non specific. 2 products used, onset of 24-48 hours is possible but other causes do exist. Dog was also treated with an NSAID which cannot be excluded as a cause for GI symptoms. Product is a possible factor in signs seen.
NOBIVAC L4	UK-VMD-3648/16	United Kingdom	Animal	Canine/dog	3 Month(s)	03/08/2016	03/08/2016	1	1	0	03/08/2016	Yes	Injection site pain,Vocalisation,Fasciculation	No Data	Injection site pain, muscle fasciculation and whining (coded as vocalisation) within 6 hours of vaccination. Recovery within 6 hours without treatment. No previous reactions, nothing further.	Crossbred	4.33	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,Whole contents of vaccine administered subcutaneously (03/08/2016-N/A)-BR>-BR>	A - Probable	Clinical signs appear to be associated with injection site pain which is known to occur following vaccination.
NOBIVAC L4	UK-VMD-3661/14	United Kingdom	Animal	Canine/dog	3 Year(s)	04/08/2014	12/08/2014	1	1	0	04/08/2014	Not Known, Not Known, Not Known	Lethargy (see also Central nervous system depression in "Neurological"),Localised pain NOS (see other "SOCs" for specific pain),Pyrexia	Not Known	Lethargy, neck pain, pyrexia within 24 hours of vaccination. Treated with NSAIDs. No further information.	Yorkshire Terrier	4.4	Nobivac DHP - 1,N/A,N/A, 24,1 dosage form (04/08/2014-N/A)-BR>-BR>-BR>-BR> Nobivac KC - N/A,N/A,N/A, N/A,N/A (04/08/2014-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,1 dosage form (04/08/2014-N/A)-BR>-BR>	B - Possible	
NOBIVAC L4	UK-VMD-3664/16	United Kingdom	Animal	Canine/dog	14.5	12/06/2014	04/08/2016	1	1	1	14/06/2014	Yes	Renal disorder NOS,Death,Malaise	No Data	Malaise within 48 hours of vaccination, renal disorder NOS confirmed on bloods and urine. Four days later death by euthanasia. No further information available.	Tibetan Spaniel	Not Known	Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A, N/A,N/A (12/06/2014-N/A)-BR>-BR>	O - Unclassifiable/unassessable	Insufficient information available.
NOBIVAC L4	UK-VMD-3665/17	United Kingdom	Animal	Canine/dog	4 Year(s)	04/07/2017	14/07/2017	1	1	0	12/07/2017	Not Known	Injection site warmth,Lethargy (see also Central nervous system depression in "Neurological"),Inappetence,Injection site pain,Injection site lump,Injection site abscess,Pale mucous membranes	Not Known	Off food and lethargic starting 5 days after vaccination. Lump on ventral neck noted 8 days after vaccination. Lump was hard, warm and painful to palpate. Centre felt fluid filled, with surrounding region quite hard - consistent with abscess formation. Clinical exam of dog was pretty unremarkable except for slightly pale mucous membranes. No previous reactions. Outcome unknown. Nothing further.	Lhasa Apso	8.4	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, N/A,Annual booster injection, 1 vial of 1ml administered (04/07/2017-N/A)-BR>-BR>	B - Possible	Timing/signs consistent with product related reaction.
NOBIVAC L4	UK-VMD-3671/17	United Kingdom	Animal	Canine/dog	1.17 Year(s)	13/07/2017	14/07/2017	1	1	0	13/07/2017	Not Known, Not Known	Vomiting,Lethargy (see also Central nervous system depression in "Neurological"),Elevated temperature,Hind limb ataxia	Not Known	Wobbling with bag leg, lethargy, vomits, increased rectal temperature within 1 hour of vaccination. No previous exposure. Recovery after 12 hours. Nothing further.	Cavalier King Charles Spaniel	12.3	Nobivac DHPH, Lyophilisate for Suspension for Injection for Dogs - 1,N/A,N/A, N/A,1 dose (13/07/2017-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, N/A,N/A (13/07/2017-N/A)-BR>-BR>	B - Possible	Timing/signs consistent with product related reaction. Two vaccines administered.
NOBIVAC L4	UK-VMD-3677/16	United Kingdom	Animal	Canine/dog	2.15 Year(s)	04/08/2016	04/08/2016	1	1	0	04/08/2016	Yes, No Yes	Periorbital oedema,Itchy skin	No Data	Periorbital swelling, pruritus within 6 hours of vaccination. Treated with steroids/antihistamines and recovered within 2-3 hours. Nothing further.	Crossbred	7.4	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1ml of L4 mixed with nobivac PI was injected under the skin today (04/08/2016-N/A)-BR>-BR>-BR>-BR> Nobivac PI - 1,N/A,N/A, 10,N/A (04/08/2016-N/A)-BR>-BR>	B - Possible	Hypersensitivity reactions can occur following vaccinations; two products used.
NOBIVAC L4	UK-VMD-3679/16	United Kingdom	Animal	Canine/dog	Not Known	03/07/2016	05/08/2016	1	1	0	03/08/2016	Not Known, Not Known	Urination,Sleepiness - systemic disorder,Vomiting,Anorexia,Lethargy (see also Central nervous system depression in "Neurological")	Not Known	Lethargy 3 hours post vaccination. Emesis the next day followed by further lethargy and anorexia. Urination when sleeping on sofa. Recovery by the next day.	Other Canine/dog	Not Known	Nobivac DHP - N/A,N/A,N/A, N/A,N/A (03/07/2016-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - N/A,N/A,N/A, N/A,N/A (03/07/2016-N/A)-BR>-BR>	B - Possible	Close time association, signs could be expected.
NOBIVAC L4	UK-VMD-3686/16	United Kingdom	Animal	Canine/dog	4 Month(s)	03/08/2016	08/08/2016	1	1	0	03/08/2016	Not Known, Not Known, Not Known	Tachycardia,Facial swelling (see also "Skin"),Abnormal breathing,Pruritus,Swollen eye,Swollen face (see also "Skin"),Swollen lip (see also "Skin"),Swollen mouth	Not Known	4month old shih Tzu in for re start vaccinations - previously had Nobivac dhppl & L2 in March this year but lapsed past the time for 2nd vacc. Given Nobivac DHP batch number A095A01 and Lepto 4 batch number A048A01 and Nobivac K/cough batch number A075F01 Owner feels it was the K/cough vaccine which caused the reaction. When dog left surgery it was fine and had been given a clean bill of health. Aprox 1hr later owner contacted surgery to say her eyes seemed swollen and during conversation her face then seemed swollen. Owner brought dog down for re-examination. Owner states dog had only gone home and eaten her tea with other dogs and couldn't have been exposed to anything in the garden etc which may have caused the problem. Exam of dog showed acute swelling of conjunctiva and surrounding tissue and along the upper lip line, breathing noisy, tachycardia, panting, memb - pink, but difficult to examine due to inflammation, crt <2secs, temp 39.1 treatment - dexamethasone 0.2mg/kg & iv fluids, face washed with cold water - within 30mins breathing back to normal temp reduced, pulse normal and inflammation reduced. Outcome unknown.	Shih Tzu	5.5	Nobivac DHP - 1,N/A,N/A, 10,1 ml 1 Animal (03/08/2016-N/A)-BR>-BR>-BR>-BR> Nobivac KC - 4,N/A,N/A, 10,0.4 ml 1 Animal (03/08/2016-N/A)-BR>-BR>-BR>-BR> Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1 ml 1 Animal (03/08/2016-N/A)-BR>-BR>	B - Possible	Temporal association is strong an according to the SPC a hypersensitivity (anaphylaxis) reaction may occur after vaccination with L4. However, the symptoms are more likely to be related to Nobivac DHP and other factors cannot be discarded as the dog went home and had some food after vaccination.

NOBIVAC L4	UK-VMD-4434/14	United Kingdom	Animal	Canine/dog	3.17 Year(s)	28/08/2014	30/09/2014	1	1	0	28/08/2014	Not Known	Muscle stiffness,Lethargy (see also Central nervous system depression in 'Neurological'),Dehydration	Not Known	Lethargy within 12 hours following 1st dose administration. Lethargy, muscle stiffness and dehydration 12 hours following 2nd dose administration, given 1 month after the 1st dose.	Crossbred	8.7	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24.1 dosage form/Vial 28/08/14 and 1 vial 29/9/14 (28/08/2014-29/09/2014)-BR>=BR>	A - Probable	The same reaction on both occasions following administration, close time association.
NOBIVAC L4	UK-VMD-4442/15	United Kingdom	Animal	Canine/dog	2.25 Year(s)	09/09/2015	07/10/2015	1	1	0	09/09/2015	Not Known, Not Known	Diarrhoea,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Diarrhoea and lethargy starting within 6 hours post vaccination. No treatment given, recovery 2 weeks later.	Shih Tzu	5.7	Nobivac DHP - 1,N/A,N/A,N/A,mixed on vial of Nobivac L4 with one vial of Nobivac DHP and injected total sub-cutaneously (09/09/2015-N/A)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A,N/A (09/09/2015-N/A)-BR>=BR>	B - Possible	Non-specific signs but close time association, 2 products administered, unexpected for these signs to last this long.
NOBIVAC L4	UK-VMD-4460/16	United Kingdom	Animal	Canine/dog	3.39 Month(s)	09/09/2016	09/09/2016	1	1	0	09/09/2016	Not Known	Diarrhoea,Emesis,Anorexia,Lethargy (see also Central nervous system depression in 'Neurological'),Dull	Not Known	This was the second dose of L4 vaccine. Previous dose was administered with DHP fraction on 8.8.16 with no ill effect. After vaccination, on the way home she had diarrhoea. Was subdued at home and vomited twice, and had more diarrhoea. off food. Seen back at the clinic inn the evening. Subdued and a bit hunched.	Crossbred	6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A,N/A, 1 vial of vaccine administered (09/09/2016-N/A)-BR>=BR>	A - Probable	Temporal association is strong and clinical signs are known to occur following administration. No other product administered.
NOBIVAC L4	UK-VMD-4464/14	United Kingdom	Animal	Canine/dog	3.02 Year(s)	28/09/2014	08/10/2014	1	1	0	29/09/2014	Not Known, Not Known	Diarrhoea,Vomiting,Conjunctivitis,Anorexia,Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Diarrhoea, emesis, lethargy, anorexia and bilateral conjunctivitis within 24 hours post vaccination. Bland diet and treatment for eyes started, outcome unknown, still ongoing at time report made.	Crossbred	9	Nobivac DHP - 1,N/A,N/A,N/A, 24,Vaccination protocol - vaccine (28/09/2014-N/A)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A, 24.1 Dose (28/09/2014-N/A)-BR>=BR>	O1 - Inconclusive	Lethargy and anorexia are non-specific signs and could be expected post vaccination. Emesis, diarrhoea and conjunctivitis are not expected.
NOBIVAC L4	UK-VMD-4470/16	United Kingdom	Animal	Canine/dog	12.25 Year(s)	05/08/2016	12/09/2016	1	1	0	05/08/2016	Not Known	Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Lethargy for several days, started approx 30 minutes after vaccination, lasting approx 1 week. No previous exposures.	Border Collie	21.4	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1ml subcutaneous vaccine dose. (1 Year(s) 05/08/2016-N/A)-BR>=BR>	A - Probable	Temporal association is strong and clinical signs are known to occur following administration. No other product administered.
NOBIVAC L4	UK-VMD-4482/16	United Kingdom	Animal	Canine/dog	2.61 Year(s)	16/08/2016	12/09/2016	1	1	0	18/08/2016	Not Known, Not Known	Diarrhoea	Not Known	Signs of diarrhoea started 48 hours after vaccination. The reaction lasted 6 days. Previous exposures with no reactions.	Collie Rough	19	Nobivac DHP - 1,N/A,N/A, 24,Single dose nobivac DHP and leptos 4 combined given subcutaneously (16/08/2016-N/A)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A, 24,N/A (16/08/2016-N/A)-BR>=BR>	B - Possible	Temporal association is strong, however another vaccine was administered concurrently.
NOBIVAC L4	UK-VMD-4484/15	United Kingdom	Animal	Canine/dog	3 Month(s)	09/10/2015	09/10/2015	1	1	0	09/10/2015	Not Known, Not Known	Vomiting,Facial swelling (see also Skin'),Lethargy (see also Central nervous system depression in 'Neurological')	Not Known	Lethargy, allergic oedema of the face and emesis starting within 30 minutes post vaccination. Unspecified treatment given, outcome unknown.	Labrador Retriever	7.7	Nobivac DHP - 1,N/A,N/A, 24,DHP and L4 component mixed together in single syringe and injected s/q in the scruff of the neck (09/10/2015-N/A)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,N/A (09/10/2015-N/A)-BR>=BR>	B - Possible	Close time association, possible hypersensitivity reaction, 2 products given concurrently.
NOBIVAC L4	UK-VMD-4518/15	United Kingdom	Animal	Canine/dog	3.9 Year(s)	05/10/2015	13/10/2016	1	1	0	05/10/2015	Not Known, Not Known	Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Vomiting,Lethargy (see also Central nervous system depression in 'Neurological'),Weak pulse,Unresponsive to stimuli,Pale mucous membrane,Anaphylaxis	Not Known	Lethargy, collapse, pale mucous membranes, weak pulse and emesis within 15 minutes post vaccination. Vet suspected acute anaphylaxis. Treated with fluids, adrenalin and corticosteroids leading to recovery 3 hours later.	Pug	11.3	Nobivac DHP - 1,N/A,N/A, 24,Single dose given subcut (05/10/2015-N/A)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,Single dose given subcut (05/10/2015-N/A)-BR>=BR>	B - Possible	Anaphylaxis, 2 products administered concurrently.
NOBIVAC L4	UK-VMD-4520/16	United Kingdom	Animal	Canine/dog	2.23 Month(s)	07/09/2016	14/09/2016	2	2	0	13/09/2016	Not Known	Ocular discharge,Adipsia,Anorexia,Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia,Shaking	Not Known	Pyrexia, anorexia, adipsia, ocular discharge, lethargy and shaking in 2 dogs 6 days post vaccination. Unspecified treatment given, outcome unknown.	Irish Red Setter	8.3	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,N/A (07/09/2016-N/A)-BR>=BR>	O1 - Inconclusive	Not a close time association, an infectious cause is more likely given it has affected both dogs in the same household.
NOBIVAC L4	UK-VMD-4526/16	United Kingdom	Animal	Canine/dog	11.58 Year(s)	09/09/2016	14/09/2016	1	1	0	09/09/2016	Not Known	Anorexia,Lethargy (see also Central nervous system depression in 'Neurological'),Hiding,Walking difficulty,Lip licking	Not Known	Lethargy, lip licking, difficulty walking, hiding behaviour and anorexia starting within 1 hour post vaccination. No treatment given, recovery 2 days later.	Other Canine/dog	6.7	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,the one millitre dose was given subcutaneously (09/09/2016-N/A)-BR>=BR>	B - Possible	Close time association, some of the signs are expected but other causes also possible.
NOBIVAC L4	UK-VMD-4538/15	United Kingdom	Animal	Canine/dog	14 Day(s)	12/10/2015	13/10/2015	1	1	0	12/10/2015	Yes, Yes	Periorbital oedema,Facial swelling (see also 'Skin'),Anaphylactic-type reaction	No Data	Possible anaphylactic-type reaction. Periorbital oedema and facial swelling within 1 hour of vaccination. First vaccination with L2 was given a few weeks prior (no reaction). Unknown treatment was given, and recovery within 5 hours. Nothing further.	Toy Poodle	2.18	Nobivac DHP - 1,N/A,N/A, 24,one off vaccination (12/10/2015-12/10/2015)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,N/A (12/10/2015-12/10/2015)-BR>=BR>	B - Possible	Close temporal association; typical of vaccine-related anaphylactic type reaction. Two products used, therefore a product related reaction is deemed possible (B).
NOBIVAC L4	UK-VMD-4547/17	United Kingdom	Animal	Canine/dog	1.17 Year(s)	25/08/2017	27/08/2017	1	1	0	25/08/2017	Not Known	Facial swelling (see also 'Skin'),Swelling around eye,Hypersensitivity NOS	Not Known	Following vaccination on 25/08/2017, the dog's face started swelling within 30 minutes of the vaccination being injected - her muzzle and eyes severely swelled. Emergency care was given and it is assumed that she has recovered.	Crossbred	4.55	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,Injected in the loose skin just below the neck. (25/08/2017-25/08/2017)-BR>=BR>	A - Probable	Signs and timing of adverse event are typical of a Type 1 hypersensitivity reaction.
NOBIVAC L4	UK-VMD-4555/15	United Kingdom	Animal	Canine/dog	Not Known	28/09/2015	14/10/2015	1	1	0	28/09/2015	Not Known	Diarrhoea,Vomiting,Lameness	Not Known	Emesis, diarrhoea and lameness of the left foreleg starting within 24 hours post vaccination. Treated with antibiotics, NSAIDs and rehydration salts. Recovery an unspecified period later.	Miniature Dachshund	5.6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1ml (28/09/2015-N/A)-BR>=BR>	O1 - Inconclusive	Close time association but signs are unexpected.
NOBIVAC L4	UK-VMD-4565/14	United Kingdom	Animal	Canine/dog	2 Year(s)	29/09/2014	07/10/2014	1	1	0	01/10/2014	Not Known	Inappetence,Lethargy (see also Central nervous system depression in 'Neurological'),Pyrexia	Not Known	Pyrexia, lethargy and anorexia 48 hours post vaccination. NSAID treatment given, outcome unknown.	Border Collie	16.6	Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24.1 dosage form/Vial (29/09/2014-N/A)-BR>=BR>	B - Possible	Close time association but non-specific signs.
NOBIVAC L4	UK-VMD-4571/15	United Kingdom	Animal	Canine/dog	2.5 Year(s)	13/10/2015	15/10/2015	1	1	0	14/10/2015	Not Known, Not Known	Anorexia,Pyrexia,Injection site pain,Adipsia	Not Known	Anorexia, adipsia, pyrexia and injection site pain less than 24 hours post vaccination with Nobivac L4 and DHP. An unknown treatment was given. Outcome unknown. No further information expected.	English Cocker Spaniel	8.25	Nobivac DHP - 1,N/A,N/A, 24,One dose given 13/10/15 (13/10/2015-N/A)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 24,N/A (13/10/2015-N/A)-BR>=BR>	B - Possible	Signs are consistent with probable vaccine involvement, however, two vaccines were given concurrently.
NOBIVAC L4	UK-VMD-4582/17	United Kingdom	Animal	Canine/dog	11 Week(s)	22/08/2017	01/09/2017	1	1	0	22/08/2017	Not Known, Not Known	Periorbital oedema,Swelling around eye	Not Known	Following vaccination on the 22/08/17 with Nobivac DHP and Nobivac L4 the dog developed periorbital swelling, which was treated with priton and resolved within 12 hours.	German Shepherd Dog	9	Nobivac DHP - 1,N/A,N/A, 10,1 ml 1 Animal (22/08/2017)-BR>=BR>Nobivac L4 Suspension for Injection for Dogs - 1,N/A,N/A, 10,1 ml 1 Animal (22/08/2017-22/08/2017)-BR>=BR>	B - Possible	Timing and clinical signs are consistent with a Type 1 hypersensitivity reaction.

NOBIVAC L4	UK-VMD-5857/14	United Kingdom	Animal	Canine/dog	2 Month(s)	10/11/2014	24/12/2014	1	1	0	11/11/2014	No- No	Circulatory collapse (see also 'Neurological' and 'Systemic disorders'),Hypothermia,Weakness,Dull	Other	Lethargy, collapse, hypothermia and weakness within 6 hours post vaccination. Recovery 2 days later following unspecified treatment.	Chihuahua	0.25	Nobivac DHPP1 -1,N/A,N/A,24,1 vaccination reconstitutes DHPP1 AND L (10/11/2014- N/A)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,24,1 vaccination reconstitutes DHPP1 AND L (10/11/2014- N/A)- 	B - Possible	close time association but non-specific signs
NOBIVAC L4	UK-VMD-5860/17	United Kingdom	Animal	Canine/dog	2.06 Month(s)	21/10/2017	23/10/2017	1	1	0	21/10/2017	Not Known- > Not Known- > Not Known	Ataxia,Hypoglycaemia,Head tilt, neurological disorder	Not Known	The pup was vaccinated on 21/10/17 with Nobivac DHP and Nobivac L4 and microchip was placed. Within less than 6 hours the pup had ataxia, head tilt, low blood glucose. Reporter suspects clinical signs related to hypoglycaemic episode rather than vaccine reaction. Similar subsequent episodes in 2 days following. Nothing further.	Pug	0.48	Identification Chip -N/A,N/A,N/A,N/A,N/A (21/10/2017-21/10/2017)- Nobivac DHP 1,N/A,N/A,10,1ml reconstituted with Nobivac L4 suspension for injection for dogs (21/10/2017-21/10/2017)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,10,N/A (21/10/2017-21/10/2017)- 	O1 - Inconclusive	Close temporal association with vaccination given - symptoms would not be expected and blood results indicated hypoglycaemia - product involvement is inconclusive.
NOBIVAC L4	UK-VMD-5907/16	United Kingdom	Animal	Canine/dog	2.98 Year(s)	12/11/2016	13/11/2016	1	1	0	13/11/2016	Not Known	Facial swelling (see also 'Skin')	Not Known	Allergic oedema over the muzzle starting within 24 hours post vaccination. Temperature was normal and no respiratory distress noted. No treatment given, outcome unknown.	English Cocker Spaniel	11.7	Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,24,one dose (12/11/2016-N/A)- 	B - Possible	Close time association, possible hypersensitivity reaction.
NOBIVAC L4	UK-VMD-5925/16	United Kingdom	Animal	Canine/dog	3.19 Month(s)	14/11/2016	14/11/2016	1	1	0	14/11/2016	Not Known- > Not Known	Injection site pain,Lethargy (see also Central nervous system depression in 'Neurological'),Reluctant to move,Not eating	Not Known	Owner reports puppy lethargic & reluctant to move or eat 6 hours after vaccination. Owner reports pain at site of vaccination when touched. Puppy not seen after vaccination by vet. Outcome unknown.	West Highland White Terrier	2.3	Nobivac DHP -1,N/A,N/A,N/A,1 vial of each (14/11/2016- N/A)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,N/A,1 (14/11/2016- N/A)- 	B - Possible	Timing/clinical signs suggest product involvement. Two vaccines administered.
NOBIVAC L4	UK-VMD-5972/16	United Kingdom	Animal	Canine/dog	5.5 Year(s)	30/06/2016	16/11/2016	1	1	0	30/06/2016	Yes	Collapse (see also 'Cardio-vascular' and 'Systemic disorders')	No Data	Collapse within one hour of vaccination. Recovery within 24 hours - unknown whether treatment given. No further information available.	Crossbred	12.4	Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,10,N/A (30/06/2016-N/A)- 	B - Possible	Close temporal association although clinical signs unusual and other possible causes of impaired consciousness
NOBIVAC L4	UK-VMD-5980/16	United Kingdom	Animal	Canine/dog	2.17 Year(s)	16/11/2016	01/02/2018	1	1	0	16/11/2016	Yes- Yes	Decreased heart rate,Low blood pressure,Vomiting,Lethargy (see also Central nervous system depression in 'Neurological')	No Data	Lethargy, vomiting (twice), low blood pressure and decreased heart rate within 2 minutes of vaccination. Recovery within one hour without treatment. No previous vaccine related reactions. Nothing further. Case received to MAH on 1 Feb 2018 On 16 Nov 2016, dog was vaccinated with Nobivac DHP and Nobivac L4. Shortly after vaccination -dog collapsed and required intravenous fluid therapy and was hospitalised as had bradycardia and hypotension. Recovery within 24 hours. No further information expected.	Bichon Frise	4.6	Nobivac DHP -1,N/A,N/A,N/A,1 vial of DHP and 1 vial of L4 (16/11/2016- N/A)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,N/A,1 ml 1 Animal (16/11/2016-N/A)- 	B - Possible	Clinical signs can occur following vaccination; two products used
NOBIVAC L4	UK-VMD-5983/16	United Kingdom	Animal	Canine/dog	3.06 Month(s)	28/10/2016	17/11/2016	1	1	0	04/11/2016	Yes- Yes	Injection site swelling	No Data	Severe Subcutaneous swelling at injection site within 7 days of vaccination. CYTOLOGIC INTERPRETATION: MARKED MIXED INFLAMMATION, PROBABLE INJECTION REACTION. Recovery within 11 days. No previous exposure. No further information.	Whippet	5.6	Nobivac DHP -1,N/A,N/A,24,N/A (28/10/2016-N/A)- Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A,24,N/A (28/10/2016- N/A)- 	B - Possible	Injection site swellings can occur following vaccination. Two products used.
NOBIVAC L4	UK-VMD-6009/17	United Kingdom	Animal	Canine/dog	2.68 Month(s)	19/10/2017	01/11/2017	1	1	0	19/10/2017	Not Known	Vomiting,Sleepiness - systemic disorder,Breathing difficulty,Pneumonia	Not Known	The pup was vaccinated with Nobivac L4 on 19/10/17. Within 30 minutes of vaccination the pup had violent vomiting, followed by deep sleep. The vomiting lead to breathing problems so saw emergency vet in 48 hours. Aspiration pneumonia (coded as pneumonia) has been diagnosed and he is now on iv penicillin. No further information.	French Bulldog	4.2	Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,24,second vaccination (19/10/2017-19/10/2017)- 	B - Possible	Timing and clinical signs suggest product involvement is possible although pneumonia would not be expected but may have developed as consequence of the other clinical signs.
NOBIVAC L4	UK-VMD-6045/17	United Kingdom	Animal	Canine/dog	3.4 Year(s)	15/09/2017	09/11/2017	2	1	1	04/10/2017	Not Known- Not Known- > Not Known- > Not Known	Increased heart rate,Abdominal pain,Diarrhoea,Haemorrhagic diarrhoea,Vomiting,Death,Inappetence,Hypothermia,Lethargy (see also Central nervous system depression in 'Neurological'),Reluctant to move,Dehydration,Abnormal test result,Hypoglycaemia,Tense abdomen,Hyperphosphataemia,Elevated BUN,Increased packed cell volume	Not Known	18 days after vaccine, severe vomit and diarrhoea for 2 days (4-5/10) then haemorrhagic watery diarrhoea for several hours on 6/10 prior to admit. Inappetent for the full 2 days. Owner did not seek veterinary advice at all during the period. Bloods unremarkable (dehydration and slightly increased monocytes). Constant deterioration throughout the day with supportive treatment being administered (IVFT (Vetivet 11 Hartmann's), Znacel, Zantac, Cerenia, Vetergesic) and intensive nursing care. Dog died despite treatment after an unknown period of time. Case received to MAH on 30 Oct 2017-Suspected Adverse Reaction On 15 Sep 2017, dog vaccinated with Nobivac L4 also had Bravecto 250mg and Milbemax given on 15 Sept 2017 and was clinically well at time of vaccination. On 6 Oct 2017, owner reports dog has been passing diarrhoea, vomiting and not eating for the past few days (no date given). That morning passed diarrhoea with blood and prompted the owner to bring dog in. On examination, temperature 36.6 degrees Celsius, heart rate 160 per minute, abdomen tense and painful, very flat and not wanting to stand. Blood tests performed: HCT 60.5 (37-55), Haemoglobin 21.9 (12-18), monocytes 2.58 (0.3-2), glucose 4.06 (4.11-7.95), Sodium 143 (144-160), Phosphorus 3.78 (0.81-2.3), Urea 16.3 (2.5-6.6). Parvovirus snap test negative. The dog was admitted and placed on intravenous fluid therapy, antibiotics, Zantac, Cerenia and Vetergesic. The dog was then being moved to emergency practice and the dog died on route. The owner declined a post mortem and took home to bury. Open case, await further information. Follow up 09 November 2017. The following products were added as concomitant medication in the product screen: Intravenous fluids (Vetivet 11 Hartmann's), Znacel (antibiotic), Zantac, Cerenia and Vetergesic. No new information received. Open case, await further information. Follow up 9 Nov 2017 - it was confirmed from the veterinary practice that the dog was never given the Bravecto 250mg chewable tablet or Milbemax. This has been removed from the product screen. No further information expected.	Shih Tzu	5.5	Cerenia unidentified - N/A,N/A,N/A,24,Unknown Unknown (N/A-N/A)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,N/A,one vial s/c (15/09/2017-15/09/2017)- Vetergesic unidentified -N/A,N/A,N/A,24,Unknown Unknown (N/A-N/A)- Vetivet 11 (Hartmann's) Solution for infusion for Cattle, Horses, Dogs and Cats -N/A,N/A,N/A,24,Unknown Unknown (N/A-N/A)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,N/A,1 (human)- N/A)- cefuroxime (human)-N/A,N/A,N/A,24,Unknown Unknown, Treatment Start and End Date 06/10/17 (N/A-N/A)- Zantac (human)- N/A,N/A,N/A,24,Unknown Unknown, Treatment Start and End Date 06/10/17 (N/A-N/A)- 	O1 - Inconclusive	18 days after vaccine is not a strong temporal relation, however, signs such as vomit and diarrhoea and inappetence are expected. The deterioration of the signs leading to death are not expected and may have a multifactorial aetiology. Overall cannot exclude product involvement but assessment is inconclusive.
NOBIVAC L4	UK-VMD-6060/16	United Kingdom	Animal	Canine/dog	2.9 Month(s)	30/11/2016		1	1	0	06/11/2016	Not Known- Not Known- > Not Known- > Not Known	Vocalisation,Localised hair loss	Not Known	Owner reports circular area of thinning hair with central point of new hair between shoulder blades, milk bottle top size and more noticeable over past 2-3 weeks since had first vaccc/advocate, not sore, did cry at first and a few seconds after injection of 2nd vaccination. Had recent id chip at breeder. Unsure which drug might be. It is not clear if the area is at advocate application site or were the vaccine was applied. The vaccine date application is not clear either. Hair is growing back now.	Chihuahua	1.2	Advocate Spot-on Solution for Small Dogs -1,N/A,N/A,N/A,1 pipette (1 Day)(5/29/10/2016- N/A)- Identification Chip -N/A,N/A,N/A,N/A,N/A (N/A-N/A)- Nobivac DHP 1,N/A,N/A,N/A,1 ml (N/A-N/A)- Nobivac L4 Suspension for Injection for Dogs -N/A,N/A,N/A,N/A (N/A-N/A)- 	O1 - Inconclusive	NCA agrees with the MAH assessment.
NOBIVAC L4	UK-VMD-6067/16	United Kingdom	Animal	Canine/dog	6.4 Year(s)	21/11/2016	30/11/2016	1	1	0	21/11/2016	Not Known- Not Known	Drowsiness - systemic disorder,Lameness,Disorientation,increased respiratory rate	Not Known	Dog started becoming drowsy, increased respiratory rate, seemed lame on right forelimb and looked disorientated starting within 6 hours post vaccination. Unspecified treatment given, recovery 1 hour later.	West Highland White Terrier	9.5	Nobivac KC -1,N/A,N/A,24,1 Dose (21/11/2016-N/A)- Nobivac L4 Suspension for Injection for Dogs 1,N/A,N/A,10,Standard 1ml dosage from vaccine single vial was given. (21/11/2016-N/A)- 	B - Possible	Close time association, 2 products administered concurrently.
NOBIVAC L4	UK-VMD-6101/16	United Kingdom	Animal	Canine/dog	4.06 Month(s)	15/10/2016	23/11/2016	1	1	0	15/10/2016	Not Known- Not Known	Injection site swelling,Injection site pain	Not Known	Reaction site swelling developed about 2 hours post injection, was painful to touch, swelling resolved over a few hours.	Crossbred	4	Nobivac DHP -N/A,N/A,N/A,N/A,Standard Lepto 4 liquid mixed with DHP powder and given as a single injection. (15/10/2016- N/A)- Nobivac L4 Suspension for Injection for Dogs -1,N/A,N/A,24,N/A (15/10/2016- N/A)- 	B - Possible	Timing/clinical signs suggest product involvement. Two vaccines administered.

