

EXTERNAL REFERENCES

ID SCREEN® CAPRIPOX DOUBLE ANTIGEN MULTI-SPECIES

Last update: March 2025

Publications / References:

LUMPY SKIN DISEASE

PERFORMANCE EVALUATION

<p>1)Ibrahim A.I. <i>et al.</i> (2022). Serodiagnosis of Lumpy Skin Disease Using Sheep Pox Virus Compared to a Commercial ELISA Kit. Journal of Applied Veterinary Sciences, 7(1), pp. 46-52.</p>	<ul style="list-style-type: none"> study conducted on 150 control and 200 field samples to evaluate and compare both virus neutralization test (VNT) using Sheep Pox virus (SPV) and Lumpy Skin Disease virus (LSDV), and the ID Screen® CPVDA Elisa to monitor the humoral response against LSDV. <i>Results:</i> sensitivity and specificity of VNT using LSDV were 96% and 100% respectively, whereas using SPV were 89.3% and 98.6% respectively. <p>sensitivity and specificity of the ID Screen® CPVDA Elisa were 98.6% and 97.3% respectively.</p> <p>agreement between VNT using SPV and ELISA: 0.93 and 0.90 with Kappa index of 0.86, and 0.78 for control and field samples tested.</p> <p>agreement between VNT using LSDV and ELISA: 0.97 and 0.96 with Kappa index of 0.94 and 0.90 for control and field samples tested.</p> <p><i>The ID Screen® CPVDA Elisa is the most sensitive test to detect LSDV antibodies in vaccinated and infected cattle. (sic)</i></p>	Correlation with other techniques				Performance evaluation
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<p>2) Krešić N. <i>et al.</i> (2020). Evaluation of serological tests for detection of antibodies against lumpy skin disease virus. Journal of Clinical Microbiology, 58(9)</p>	<ul style="list-style-type: none"> the study compared a modified VNT on MDBK cells with VNT/OIE and the ID Screen® CPVDA Elisa. The results obtained by Elisa and VNT/MDBK were compared on 291 samples and agreement between ELISA and VNT/MDBK was achieved using 238 positive and 40 negative samples. <i>Results:</i> results obtained by Elisa and VNT/MDBK showed a kappa index of 0.834 with an overall proportion agreement of 0.955; the sensitivity of VNT/MDBK compared to that of ELISA was 95%, while specificity was 97.56%. <p>The ID Screen® CPVDA ELISA strongly correlates with VNT/MDBK.</p>	Correlation with other techniques				Performance evaluation
<p>3) Milovanović M. <i>et al.</i> (2020). Suitability of individual and bulk milk samples to investigate the humoral immune response to lumpy skin disease vaccination by ELISA. Virology journal, 17(1), 1-7.</p>	<ul style="list-style-type: none"> the study investigated the suitability of milk (individual and bulk samples) to detect LSD-specific antibodies using the ID Screen® CPVDA Elisa; serum and milk samples from 154 vaccinated dairy cows were used as positive samples, and 353 negative cattle samples from LSD-free and non-vaccinating areas were used. Tests of milk samples were performed with 2 protocols: <ol style="list-style-type: none"> Incubation 90 min., +21°C Overnight incubation, +4°C <i>Results:</i> a very high agreement level between results was obtained on sera and milk, regardless of the protocol used; an optimal cut-off of ≥ 10 S/P % gave the highest level of specificity on milk samples. <p>The ID Screen® CPVDA Elisa is in principle suitable to be used on milk samples, from individual animals and pooled milk samples of small bulks. Cut-off values will need to be specified according to the purpose of testing. (sic)</p>		Particular matrix			Performance evaluation
<p>4) Milovanović M. <i>et al.</i> (2019). Humoral immune response to repeated lumpy skin disease virus vaccination and performance of serological tests. BMC Veterinary Research 15(1), 1-9.</p>	<ul style="list-style-type: none"> an LSDV vaccination (using <i>LSDV Neethling vaccine</i>) study compared performances of the ID Screen® CPVDA Elisa, IFAT, and VNT. <i>Results:</i> relative sensitivity and specificity of the ID Screen® CPVDA Elisa were estimated to be 91% and 87% (based on VNT results), and 88% and 76% (based on IFAT results). <p>Of all the tests used the commercially available ELISA was shown to be the most useful for high throughput analysis compared to VNT or IFAT. (sic)</p>	Correlation with other techniques			Vaccination monitoring	Performances evaluation

<p>5)Samojlović M. <i>et al.</i> (2019). Detection of antibodies against lumpy skin disease virus by virus neutralization test and Elisa methods. Acta Veterinaria-Beograd, 69 (1), 47-60.</p>	<ul style="list-style-type: none"> performances were evaluated for VNT and ID Screen® CPVDA Elisa on 125 cattle sera from LSD-free areas and 200 vaccinated cattle sera. <i>Results:</i> the correlation obtained for both tests was exceptionally high (kappa: 0.913); the specificity of the ID Screen® CPVDA Elisa was 99.2%. In vaccinated cattle, antibodies were detected 20 days after vaccination. <p>ID Screen® CPVDA Elisa perfectly correlates with VNT.</p>	Correlation with other techniques				Performances evaluation
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VACCINATION/EXPERIMENTAL INFECTION

<p>6)Haegeman A. <i>et al.</i> (2023). Duration of Immunity Induced after Vaccination of Cattle with a Live Attenuated or Inactivate Lumpy Skin Disease Virus Vaccine. Microorganisms 11, 210.</p>	<ul style="list-style-type: none"> Evaluation of the duration of immunity induced in cattle (n=18) by a commercial live attenuated vaccine (<i>Lumpyvax</i>) and an inactivated vaccine (obtained from MCI, Santé Animale), both based on LSDV. The humoral response was followed using the ID Screen® CPVDA Elisa, IPMA, and 2 VNT tests. <i>Results:</i> in unvaccinated animals: <ul style="list-style-type: none"> ➤ IPMA: seroconversion first detected at 8 days post-challenge (dpc) in one animal, and all were seroconverted by 12 dpc. ➤ VNT1 and VNT2: neutralizing antibodies first detected at 14 and 16 dpc respectively ➤ ELISA: first detection and complete seroconversion after 14 and 21 dpc respectively in LSDV LAV-vaccinated animals: <ul style="list-style-type: none"> ➤ onset of seroconversion was seen at 7 days post-vaccination (dpv) for IPMA, 11 dpv for Elisa and VNT1, and 16 dpv for VNT2. in LSDV inactivated-vaccinated animals: <ul style="list-style-type: none"> ➤ earliest onset of seroconversion was seen at 9 dpv by IPMA, at 28 dpv by Elisa and VNT2, and 21 dpv by VNT1. 	Correlation with other techniques			Experimental infection	
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<p>7)Hakobyan V. <i>et al.</i> (2023). The Serological Response in Cattle following Administration of a Heterologous Sheep Pox Virus Strain Vaccine for Protection from Lump Skin Disease; Current Situation in Armenia. Veterinary Sciences, 10(2), 102.</p>	<ul style="list-style-type: none"> • Seroprevalence and seroconversion assessment was carried out on 798 cattle vaccinated with a dry culture <i>sheep-pox virus (origin: Federal Center for Animal Health, Armenia)</i>, using the ID Screen® CPVDA Elisa before and 30 days after vaccination. • <i>Results:</i> before vaccination, none of the tested cattle were positive; 30 days after, 86.09% of the animals were found to have antibodies to LSDV. 					
<p>8)Fay P. C. <i>et al.</i> (2022). The immune response to lumpy skin disease virus in cattle is influenced by inoculation route. Frontiers in Immunology, 13, 6947.</p>	<ul style="list-style-type: none"> • Analysis of the immune responses of calves (n=30) experimentally inoculated with <i>LSDV (live strain originated from an LSD outbreak in Eastern Europe in 2016, Pirbright)</i>, via either needle-inoculation or arthropod-inoculation using virus-positive vectors; LSDV-specific antibodies were detected using the ID Screen® CPVDA Elisa. VNT was also performed to detect neutralizing antibodies. • <i>Results:</i> 3 of the 7 clinical calves were positive by ELISA at 15 dpi (days post-infection), and 6 were positive at 21 dpi. VNT detected neutralizing activity in all 7 clinical calves at 5 dpi. 	Correlation with other techniques			Epidemiological study	Vaccination monitoring
<p>9)Matsiela M. S. <i>et al.</i> (2022). Improved safety profile of inactivated Neethling strain of the lumpy skin disease vaccine. Vaccine: X, 12, 100209.</p>	<ul style="list-style-type: none"> • Experimental immunization of rabbits using <i>LSDV Neethling attenuated vaccine strain (origin: OBP)</i> prepared with Montanide adjuvant. The serological response was followed using the ID Screen® CPVDA Elisa and SNT. • <i>Results:</i> the non-vaccinated animals did not develop detectable antibody responses; serological assays revealed that the highest dose of vaccine induced a high level of antibodies compared to the lowest dose of the same vaccine. The antibody response increased after secondary vaccination and was comparable with both serological assays. <p>ID Screen® CPVDA Elisa perfectly correlates with VNT.</p>	Correlation with other techniques	Particular species		Experimental infection	
<p>10)Shumilova I. <i>et al.</i> (2022). A Recombinant Vaccine-like Strain of Lumpy Skin Disease Virus Causes Low-Level Infection of Cattle through Virus-Inoculated Feed. Pathogens, 11(8), 920.</p>	<ul style="list-style-type: none"> • Study of indirect transmission of virus LSDV. Bulls (n=12) were fed using food contaminated with <i>LSDV strains (classical field strain Dagestan/2015 and recombinant vaccine-like Saratov/2017)</i>. The serological response was followed using the ID Screen® CPVDA Elisa. • <i>Results:</i> Group 1 (6 bulls infected with the Dagestan/2015 strain) remained healthy and did not seroconvert. 				Experimental infection	

	Group 2 (6 bulls infected with the Saratov/2017 strain): three remained clinically healthy, while two displayed evidence of detectable seroconversion.					
11)Uzar S. <i>et al.</i> (2022). Comparison and efficacy of two different sheep pox vaccines prepared from the Bakırköy strain against lumpy skin disease in cattle. Clin Exp Vaccine Res 2022; 11:1-11.	<ul style="list-style-type: none"> Experimental immunization on 10 cattle using 2 sheep pox vaccines prepared from the <i>Bakırköy strain</i> (<i>Penpox-M</i>, from <i>Pendik Veterinary Control Institute</i>, and <i>Sheep pox vaccine produced in MDBK</i>) followed by challenge with a virulent strain of LSD; antibodies in serum samples were tested with the ID Screen® CPVDA Elisa and VNT. <i>Results:</i> there was no seropositivity in immunized animals, but after the challenge, antibodies were detected on 9, 11, 15, 21, and 25 days by Elisa and SNT. ID Screen® CPVDA Elisa perfectly correlates with VNT.	Correlation with other techniques			Experimental immunization	
12)Sanz-Bernardo B. <i>et al.</i> (2021). Quantifying and modeling the acquisition and retention of lumpy skin disease virus by hematophagous insects reveals clinically but not subclinically affected cattle are promoters of viral transmission and key targets for control of disease outbreaks. J Virol 95:e02239-20.	<ul style="list-style-type: none"> Experimental infection (n=8 calves) using <i>LSDV strain</i> (origin: <i>Pirbright</i>, from the skin of an LSD-affected bovine in eastern Europe in 2016). The ID Screen® CPVDA Elisa was used to follow the humoral response. <i>Results:</i> sera from three clinically affected calves contained antibodies to LSDV at 15 to 17 days post-infection. By the end of the study period, all subclinical animals had also developed detectable anti-LSDV antibodies. The ID Screen® CPVDA ELISA can follow humoral response after experimental infection from day 15.				Experimental infection	
13)Shafik N.G. <i>et al.</i> (2021). Comparative study between lumpy skin disease virus and sheep pox virus vaccines against recent field isolate of lumpy skin disease virus. Rev Bionat, 3, 1955-9.	<ul style="list-style-type: none"> This study compares the efficacy of <i>live attenuated Neethling LSDV vaccine</i> and <i>live attenuated Romanian SSPV Vaccine</i> against recent circulating LSDV field isolate in calves. 21 days after vaccination, samples collected were analyzed using SNT and the ID Screen® CPVDA Elisa. <i>Results:</i> both live attenuated LSDV vaccines and live attenuated SSPV vaccine indicated seroconversion using Elisa. with a higher percentage for LSDV vaccines. VNT confirmed Elisa results. The ID Screen® CPVDA Elisa finds a strong correlation with SNT. (sic)	Correlation with other techniques			Experimental vaccination	

<p>14)Wolff J. <i>et al.</i> (2021). Development of a Safe and Highly Efficient Inactivated Vaccine Candidate against Lumpy Skin Disease Virus. Vaccines 9, 4.</p>	<ul style="list-style-type: none"> Experimental infection using 3 different vaccines: inactivated <i>LSDV- “Neethling vaccine” strain</i>, live-attenuated vaccine <i>“Herbivac LS”</i> and <i>LSDV- “Serbia” field strain</i>. 35 or 42 days after vaccination, a challenge infection was performed with virulent <i>LSDV- “Macedonia2016” field strain</i>, and sera were tested using the ID Screen® CPVDA Elisa and VNT. <i>Results:</i> the ID Screen® CPVDA Elisa detected antibodies against LSDV 21 days post-challenge as VNT. <p>ID Screen® CPVDA Elisa perfectly correlates with VNT.</p>	Correlation with other techniques			Experimental vaccination	Performance evaluation
<p>15)Kononov A. <i>et al.</i> (2020). Non-vector-borne transmission of lumpy skin disease virus. Scientific reports, 10(1), 1-12.</p>	<ul style="list-style-type: none"> Experimental infection on 10 bulls using the vaccine-derived virulent recombinant <i>LSDV Saratov/2017 strain</i> (origin: FGBI ARRIAH) to study a possible non-vector transmission in inoculated bulls and in-contact bulls. Infection was tested serologically in infected and contact bulls, using the ID Screen® CPVDA Elisa and VNT. <i>Results:</i> the ID Screen® CPVDA Elisa confirmed that, at day 0 before the infection, all animals were seronegative and showed seroconversion at 42 days post-infection for the five inoculated bulls, whereas only three out of the five in-contact bulls showed a weak seropositive response; at 62 days post-infection, all inoculated bulls were strongly seropositive; all the results were confirmed using VNT. <p>The ID Screen® CPVDA ELISA has a high correlation with VNT.</p>	Correlation with other techniques			Experimental infection	Performance evaluation
<p>16)Wolff J. <i>et al.</i> (2020). Minimum Infective Dose of a Lumpy Skin Disease Virus Field Strain from North Macedonia. Viruses, 12(7), 768.</p>	<ul style="list-style-type: none"> The ID Screen® CPVDA Elisa and SNT were used to follow serological response after experimental LSDV inoculation with <i>LSDV- “Macedonia2016” strain</i>. Four groups of six cattle were used. <i>Results:</i> both the ID Screen® CPVDA Elisa and SNT detected seroconversion (17-28 dpi). <p>The ID Screen® CPVDA Elisa has a high correlation with VNT.</p>	Correlation with other techniques			Experimental infection	Performance evaluation

<p>17) Möller J. <i>et al.</i> (2019). Experimental lumpy skin disease virus infection of cattle: Comparison of a field strain and a vaccine strain. Archives of virology, 164(12), 2931-2941.</p>	<ul style="list-style-type: none"> Experimental infection on 12 cattle with <i>LSDV-Neethling vaccine</i> and <i>LSDV-Macedonia 2016 field strains</i>; serological methods (the ID Screen® CPVDA Elisa, indirect immunofluorescence test, and serum neutralization test) were evaluated. <i>Results:</i> the results were equivalent for most samples using the ID Screen® CPVDA Elisa and SNT regarding positive/negative results. the ID Screen® CPVDA Elisa results were positive at 14 dpi for 6/9 infected animals. with IFAT, a very slight antibody reaction was detected as early as 7 dpi; however, strong immunofluorescence signals were observed with a sample from one animal that was negative in both SNT and ELISA (nonspecific reactions in the IFAT cannot be completely ruled out). <p><i>The ID Screen® CPVDA ELISA seems to be as specific as the SNT and therefore provides an excellent tool for rapid and simple serological examination of LSDV-vaccinated or infected cattle. (sic)</i></p>	Correlation with other techniques			Vaccination monitoring	Performances evaluation
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EPIDEMIOLOGICAL STUDIES

<p>18) Suwankitwat N. <i>et al.</i> (2023). Long-term monitoring of immune response to recombinant lumpy skin disease virus in dairy cattle from small-household farms in western Thailand. Research square.</p>	<ul style="list-style-type: none"> Study of LSD immune response of subclinical and clinical animals after natural infection in dairy cattle (n=66). Antibody response was detected using serum neutralization test (SNT) and the ID Screen® CPVDA Elisa. <i>Results:</i> LSDV antibodies were detected in the LSDV infected cattle at least 15 months post symptoms (mps). ELISA positives ranged from 36.11 to 75.00% of the sample during the studied period. SNT positives ranged from 47.22–67.19% of the samples over the same period. <p><i>SNT provided results equivalent to Elisa, implying that both assays may be used interchangeably between 1 and 15 mps. (sic).</i></p>	Correlation with other techniques		Epidemiological study		
<p>19) Hussien M.O. <i>et al.</i> (2022). Serological, virological and molecular diagnosis of an outbreak of lumpy skin disease among cattle in Butana area, Eastern Sudan. Veterinary Medicine and Science, 1–7.</p>	<ul style="list-style-type: none"> The study reports an LSD outbreak and discusses serological, virological, and molecular investigations of the disease. 43 serum samples were tested with the ID Screen® CPVDA Elisa. <i>Results:</i> 18 of the 43 serum samples (41.9 %) tested positive. Diagnosis of LSD was confirmed with clinical, virological, and molecular investigations. 	Correlation with other techniques		Epidemiological study		

<p>20)Ko Y. S. <i>et al.</i> (2022). Serological and molecular prevalence of lumpy skin disease virus in Korean water deer, native and dairy cattle in Korea. Korean Journal of Veterinary Service, 45(2), 133-137.</p>	<ul style="list-style-type: none"> The purpose of this study was to confirm the absence of LSDV antigens or antibodies in Korean livestock. 1200 blood samples from cattle (691 Korean native cattle, 419 dairy cattle, and 90 Korean water deer) were tested using PCR and the ID Screen® CPVDA Elisa. <i>Results:</i> all the animals were tested negative for antigen and antibody to LSDV <p>The study presents specificity data on Korean livestock (cattle and water deer) for the ID Screen® CPVDA Elisa, confirmed by PCR.</p>	Correlation with other techniques	Particular species	Epidemiological study	Specificity data
<p>21)Ahmed E. M. <i>et al.</i> (2021). Lumpy skin disease outbreaks investigation in Egyptian cattle and buffaloes: Serological evidence and molecular characterization of genome termini. Comparative Immunology, Microbiology and Infectious Diseases, 76, 101639.</p>	<ul style="list-style-type: none"> 198 serum samples (102 from cattle and 96 from contact buffaloes) collected during LSD outbreaks were examined using the ID Screen® CPVDA Elisa. <i>Results:</i> The analysis of Elisa testing in serum samples from clinically infected cattle showed that all samples collected in the first three days of infection were negative (n = 18), except one sample (from an animal with a vaccination history) was positive. While all samples tested after 2-4 weeks were positive (100 %); positive results were obtained in 17 out of 96 serum samples collected from non-vaccinated buffaloes with a percentage of 17.7 %. 			Epidemiological study	
<p>22)Pandeya Y.R. <i>et al.</i> (2021). Case study of Lumpy skin disease in cattle of Chitwan Nepal. National Cattle Research Program, Rampur, Nepal.</p>	<ul style="list-style-type: none"> Diagnosis of a clinical case (a cow with skin nodules in the body and increased salivation) by study of clinical signs and symptoms, and serological testing using the ID Screen® CPVDA Elisa. <i>Results:</i> the ID Screen® CPVDA Elisa confirmed the LSD diagnosis. 			Diagnosis of a clinical case	
<p>23)Selim A. <i>et al.</i> (2021). Seroprevalence and risk factors for lumpy skin disease in cattle in Northern Egypt. Tropical Animal Health and Production, 53(3), 1-8.</p>	<ul style="list-style-type: none"> 1000 cattle sera were tested using the ID Screen® CPVDA Elisa. <i>Results:</i> seroprevalence was 19.5%. 			Epidemiological study	
<p>24)Aldeewan A. B. <i>et al.</i> (2019). Clinical and serological study of Lumpy skin disease in cattle in Basrah Province. Kufa Journal For Veterinary Medical Sciences, 10(1).</p>	<ul style="list-style-type: none"> 600 blood samples were collected from cattle suspected of being infected with LSDV according to the clinical examination and tested using the ID Screen® CPVDA Elisa. <i>Results:</i> seroprevalence was 18.66%. 			Epidemiological study	

25)Dawoud M. <i>et al.</i> (2019). Prevalence and molecular characterization of lumpy skin disease in cattle during period 2016-2017. Benha Veterinary Medical Journal 37.1 (2019): 172-175.	<ul style="list-style-type: none"> 875 serum samples were collected from clinically infected (n=300) and apparent healthy cattle (n=575) and were examined using the ID Screen® CPVDA Elisa. <i>Results:</i> seroprevalence was 24%. 			Epidemiological study		
26)Ochwo S. <i>et al.</i> (2019). Seroprevalence and risk factors for lumpy skin disease virus seropositivity in cattle in Uganda. BMC Veterinary Research 15:236.	<ul style="list-style-type: none"> study of seroprevalence of LSDV in Uganda (n=2263), using the ID Screen® CPVDA Elisa. <i>Results:</i> overall animal and herd-level seroprevalences were 8.7% and 72.3% respectively. 			Epidemiological study		

SHEEP POX/GOAT POX

VACCINATION/EXPERIMENTAL INFECTION

27)Elsayed E.K. <i>et al.</i> (2023). Field Evaluation of Sheep Pox Vaccine in Sheep and Goats in Egypt. Suez Canal Veterinary Medical Journal. SCVMJ, 28(2), 353-366.	<ul style="list-style-type: none"> 7 sheep and 5 goats were vaccinated using live attenuated sheep pox vaccine (<i>Romanian strain</i>). The humoral immunity was checked with the ID Screen® CPVDA Elisa. <i>Results:</i> the immune response in sheep and goats increased gradually as of the 7th day post-vaccination and reached the highest level on the 28th day post-vaccination. 					
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<p>28)Wolff J. <i>et al.</i> (2023). Cross-Protection of an Inactivated and a Live-Attenuated Lumpy Skin Disease Virus Vaccine against Sheeppox Virus Infections in Sheep. <i>Vaccines</i>, 11, 763.</p>	<ul style="list-style-type: none"> Comparison of two LSDV vaccines (<i>Lumpivax</i>, based on the live-attenuated Neethling strain, and an in-house inactivated vaccine based on a Serbia field strain) on sheep (n=20). SNT and the ID Screen® CPVDA Elisa were used to follow serological response after vaccination and after challenge with a highly virulent <i>SPPV-India/2013/Surankote field strain</i>. <i>Results:</i> all sheep vaccinated with the inactivated LSDV vaccine were positive for antibodies with ELISA and SNT on the day of challenge infection. <p>for all sheep vaccinated with the live-attenuated vaccine, on the day of challenge infection, the Elisa results were negative, and SNT detected neutralizing antibodies in only two out of eight animals; in this group, 5 animals remained Elisa-negative during the entire study, and no neutralizing antibodies could be observed in any sheep until the end of the study.</p>	Correlation with other techniques			Correlation with other techniques	
<p>29)Fay P. <i>et al.</i> (2021). A field study evaluating the humoral immune response in Mongolian sheep vaccinated against sheeppox virus. <i>Transboundary and Emerging Diseases</i> , 1-10.</p>	<ul style="list-style-type: none"> Post-vaccination monitoring study after vaccination with live-attenuated vaccine (<i>SPPV Perego strain, origin: Biocombinat SOI, Mongolia</i>) using both the ID Screen® CPVDA Elisa (400 samples) and VNT (subset of 45 samples). <i>Results:</i> substantial agreement between the VNT and Elisa. Antibodies to CPV were detected between 40- and 262 days post-vaccination. <p><i>The ID Screen® CPVDA Elisa is a robust and reliable assay for post-CPPV vaccination surveillance in resource-restricted settings and provides temporal parameters to be considered when planning sheep pox post-vaccination monitoring programmes. (sic).</i></p>	Correlation with other techniques			Vaccination study	Performance evaluation
<p>30)Wolff J. <i>et al.</i> (2020). Establishment of a Challenge Model for Sheeppox Virus Infection. <i>Microorganisms</i>, 8(12), 2001.</p>	<ul style="list-style-type: none"> Two Sheep Pox Virus (<i>isolates SPPV-“India/2013/Surankote” and SPPV-“Egypt/2018”</i>) and three different infection routes were tested to establish a challenge model for SPPV infections that can be used in future vaccine studies. Seroconversion was analyzed using the ID Screen® CPVDA Elisa and SNT. <i>Results:</i> the ID Screen® CPVDA Elisa detects seroconversion earlier than SNT (7-10 days post-infection and 14-21 post-infection respectively). <p><i>The ID Screen® CPVDA Elisa is suitable to detect early seroconversion in experimental infection studies (7-10 dpi).</i></p>	Correlation with other techniques			Experimental infection	Performance evaluation

EPIDEMIOLOGICAL STUDIES

<p>31)Villalba R. <i>et al.</i> (2024). Lessons Learned from Active Clinical and Laboratory Surveillance during the Sheep Pox Virus Outbreak in Spain, 2022–2023. <i>Viruses</i>, 16, 1034.</p>	<ul style="list-style-type: none"> Laboratory surveillance during the Sheep Pox Virus Outbreak in Spain, 2022–2023 in sheep (n=492) and goats (n=167) using PCR on oral swabs and the ID Screen® CPVDA Elisa on serum samples. <i>Results:</i> all the goat samples were negative and 40% of sampled sheep positive in oral swabs were positive using Elisa. 	Correlation with other techniques		Epidemiological study		
<p>32)Adedeji A.J. <i>et al.</i> (2021). Household and animal factors associated with sheeppox and goatpox sero-prevalence and identification of high-risk areas in selected States of northern Nigeria. <i>Preventive Veterinary Medicine</i>, Volume 196, 105473.</p>	<ul style="list-style-type: none"> Cross-sectional study on sera samples collected from 1800 small ruminants, then tested using the ID Screen® CPVDA Elisa. <i>Results:</i> seroprevalence was 2%. 			Epidemiological study		

ALL CAPRIPOX

PERFORMANCE EVALUATION

<p>33)Milićević V. <i>et al.</i> (2024). Evaluation of commercial ELISA kits' diagnostic specificity for FAST diseases in wild animals. <i>Onderstepoort Journal of Veterinary Research</i> 91(1), a2164.</p>	<ul style="list-style-type: none"> Assessment of diagnostic specificity of the ID Screen® CPVDA Elisa on 342 wild ruminant serum samples. After the initial testing, the positive samples were retested; then the positive samples were inactivated at 56 °C for 30 min to mitigate non-specific reactions and tested again. <i>Results:</i> specificity was 98.54%, which increased to 100% after the serum inactivation. <p>Serum inactivation improves the specificity of the ID Screen® CPVDA Elisa.</p>	Wild species			Specificity data	
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EPIDEMIOLOGICAL STUDIES

<p>34)Mansour M. E. <i>et al.</i> (2021). Sero Prevalence and Risk factors for Sheep Pox and Lumpy Skin Disease and Their Comparison to Capri Pox Double Antigen Multispecies ELISA in Khartoum and Kordofan States in Sudan. Archives of Clinical Microbiology, Vol.12 No.S3: 001.</p>	<ul style="list-style-type: none"> • Cross-sectional survey using the ID Screen® CPVDA Elisa and VNT for sheep pox (= 52 ovine sera) and the ID Screen® CPVDA Elisa for Lumpy Skin Disease (n=260 cattle sera). Receiver Operation Characteristics (ROC) curves were used to analyze test performances. • Results: seroprevalence SPPV in sheep: with VNT: 73.4% with Elisa: 62% seroprevalence LSD in cattle: with ELISA: 5% ROC curves described better performance for the Elisa kit than for the VNT. <p><i>The better performance characteristics of the ID Screen® CPVDA Elisa compared to neutralization as a gold standard renders Elisa a suitable candidate for serological diagnosis of CPV for our laboratory conditions. (sic)</i></p>	Correlation with other techniques		Epidemiological study	Performance evaluation
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