# EXTERNAL REFERENCES

# ID SCREEN® LEISHMANIASIS INDIRECT

*July 2025*

**Publications / References:**

## DOGS

### PERFORMANCE EVALUATION

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| 1)Nai G. *et al*. (2022). **Confronto Tra Un Test Elisa Commerciale Ed Il Test Di Immunofluorescenza Indiretta (Ifat) Per La Sierodiagnosi Della Leishmaniosi Canina**. Poster presented at XXI Congresso Nazionale SIDILV, Ischia, Italy, 7-8 september 2022. | ▪ 444 dog sera were tested using the Indirect Immunoflurescence Test (IFAT) and the ID Screen® Leishmaniasis Indirect<br>▪ *Results*:<br>-<u>evaluation of the ID Screen® Leishmaniasis Indirect using IFAT as reference:</u><br>-specificity: 96%<br>-sensitivity: 100%<br>-correlation coefficient kappa: 96.6%<br>-<u>diagnostic performance using Bayesian Latent Class Analysis:</u><br>-specificity ID Screen® Leishmaniasis Indirect: 96.3%<br>-sensitivity ID Screen® Leishmaniasis Indirect: 95.5%<br>-specificity IFAT: 98.6%<br>-sensitivityIFAT: 81.4%<br><br>***The ID Screen® Leishmaniasis Indirect, characterized by operational advantages such as objective automated reading and potential implementation automated platforms, showed good diagnostic performances both in relation to the reference IFAT test and overall (comparable specificity and better sensitivity than IFAT).*** **(sic)** | **Comparison with other techniques** |



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| 2)Solano-Gallego L. *et al.* (2014). **Serological diagnosis of canine leishmaniosis: comparison of three commercial ELISA tests (Leiscan®, ID Screen® and Leishmania 96®), a rapid test (Speed Leish K®) and an in-house IFA**T. Parasites & Vectors, 7, 1-10. | ▪ Comparison of three commercial ELISA tests (including the ID Screen® Leishmaniasis Indirect, Leiscan test from Esteve Veterinaria, and Leishmania 96 from Agrolabo), a rapid test, and IFAT. Sick infected dogs (n = 36), healthy infected dogs (n = 18), L. infantum seropositive dogs with low to high levels of antibodies (n = 53), dogs seropositive to other pathogens (to evaluate cross reaction) (n = 14), and uninfected dogs from a non-endemic area (n = 50) and an endemic area (n = 32) were analyzed by the serological methods mentionned above. Performance indicators analyzed for each test were: sensitivity, specificity, accuracy, area under curve-receiver operating characteristic (AUC-ROC).<br>▪ *Results*: diagnostic performance of the ID Screen® Leishmaniasis Indirect:<br>-<u>Measures based on manufacturer's recommendations:</u><br>-sensitivity: 95.3%<br>-specificity: 100%<br>-accuracy: 97.5%<br><u>-Measures based on ROC cut-off values:</u><br>-sensitivity: 96.3%<br>-specificity: 100%<br>-accuracy: 98%<br>***This study demonstrated that all serological techniques showed high specificity. However, sensitivity varied from one technique to another. The Leiscan and the ID SCREEN® Leishmaniasis Indirect tests had superior diagnostic performance measures compared to the IFAT*. (sic)** | **Comparison with other techniques** |

## EPIDEMIOLOGICAL STUDIES

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| 3)Heydari A. *et al.* (2024). **Visceral Leishmaniasis in Stray Dogs From Kermanshah Area, Iran: Seroprevalence and Association With Clinical and Hematological Alterations**. Iranian Journal of Veterinary Medicine. | ▪ Sera from 92 stray dogs were tested using the ID Screen® Leishmaniasis Indirect. All positive samples were titrated by direct agglutination test (DAT).<br>▪ *Results*: seroprevalence was 11.95%; positive samples show DAT titers between 1: 160 and 1: 20480. | |



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| 4)Laidoudi Y. *et al*. (2024). **Serosurvey of canine leishmaniasis in five departments near an identified human clinical case in Marseille (France)**. One Health, 19, 100855. | ▪ Sera from 718 dogs were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 5.1%. | | | | | |
| 5)Maurelli M.P. *et al.* (2024). **First detection of *Leishmania major* in dogs living in an endemic area of zoonotic cutaneous leishmaniasis in Tunisia**. Parasites & Vectors, 17(1), 333. | ▪ Sera from 51 dogs were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 11.76%. | | | | Diagnostic cases | |
| 6)Stoimenov G. *et al*. (2024). **Clinical manifestations and diagnostic approaches in cases of canine leishmaniasis in Bulgaria**. Veterinaria Italiana, 60(2). | ▪ Sera from 4 dogs with clinical signs associated with canine leishmaniasis were tested using the ID Screen® Leishmaniasis Indirect and a Rapid test (Bionote).<br>▪ *Results*: all 4 dogs yielded positive results with the Rapid test; when tested using the ID Screen® Leishmaniasis Indirect, sera showed high amounts of antibodies in 2 cases, while antibodies were marginally above the assay's positive cut-off limit in the third case, and in the doubtful zone in the last case. | | | | Diagnostic cases | |
| 7)Zribi L. *et al*. (2023). **Canine *Leishmania spp*. infection in two distinct foci of visceral and cutaneous leishmaniasis in Tunisia**. Veterinary Parasitology: Regional Studies and Reports, 44, 100906. | ▪ Sera from 166 dogs were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 18.8%. | | | | | |
| 8)Gebremedhin E.Z. *et al*. (2022). **High seroprevalence of *Leishmania infantum* infection in dogs and its associated risk factors in selected towns of Southwest and West Shewa zones of Oromia, Ethiopia**. Veterinary Medicine and Science, 8(6), 2319-2328. | ▪ Sera from 368 dogs were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 84.24%. | | | | | |
| 9)Akhtardanesh B. *et al.* (2020). **Seroepidemiology of visceral leishmaniosis in stray dogs in Yazd city by ELISA method**. Iranian Journal of Veterinary Clinical Sciences, 14(2). | ▪ Sera from 100 stray dogs were tested using the ID SCREEN® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 1%. | | | | | |



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| 10)Gharekhani J. *et al.* (2020). **Seroprevalence of Visceral Leishmaniosis in Stray Dogs of Hamedan, West of Iran in 2018**. Journal of Medical Microbiology and Infectious Diseases, 8(2), 71-75. | ▪ Sera from 180 stray dogs were tested using the ID SCREEN® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 10.56%. | | | | | |
| 11)Usman M. *et al.* (2020). **Seroprevalence Of Canine Leishmaniasis In Parts Of Sokoto State, Northwestern Nigeria**. International Journal of Current Research, Vol. 12, Issue 02, pp.10087-10091. | ▪ Sera from 316 dogs were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 3.5%. | | | | | |
| 12)Mahshid M. *et al.* (2014). **Seroprevalence of canine visceral leishmaniasis in southeast of Iran**. Journal of parasitic diseases, 38, 218-222. | ▪ Sera from 205 dogs were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 15.4%. | | | | | |
| 13)Ait-Oudhia K. *et al*. (2009). **Increase in the prevalence of canine leishmaniasis in urban Algiers (Algeria) following the 2003 earthquake**. Annals of Tropical Medicine & Parasitology, 103(8), 679-692. | ▪ Sera from 1810 dogs were tested using the ID Screen® Leishmaniasis Indirect and IFAT. Samples giving doubtful results in the IFAT or ELISA were further explored by Western Blot.<br>▪ *Results*:<br>- of the 1810 canine sera tested, 454 were found positive for anti-leishmanial antibodies with the 2 techniques (overall seroprevalence 25%)<br>-332 sera (18.3%;) were found positive with the IFAT<br>-407(22.5%;), including all of the IFAT-positive sera, were found ELISA-positive<br>-47 sera were doubtful and were investigated by Western Blot : 47 were found positive<br>-the concordance between the IFAT and ELISA results was 95%, with a corresponding kappa value of 0.87. | **Correlation with other techniques** | | | | |



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## CATS

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| 14)Mohamed-Cherif A. *et al.* (2022). **A cross-sectional study of *Leishmania infantum* infection in stray cats in Algiers' suburbs, Algeria, and evaluation of serological and molecular tests for its diagnosis**. Veterinaria, 71(1), 73-83. | ▪ Sera from 388 stray cats were tested using the ID Screen® Leishmaniasis Indirect, IFAT and qPCR.<br>▪ *Results*:<br>-17% of samples were positive by IFAT<br>-22.42% of samples were positive with the ID SCREEN® Leishmaniasis Indirect<br>-36.6 % of samples were positive by qPCR.<br>-Kappa index showed a strong agreement between IFAT and ELISA (k= 0.83), and moderate agreement between IFAT and qPCR (k= 0.524)<br>-sensitivity was 100% % for both ELISA and qPCR. | Correlation with other techniques |
| 15)Akhtardanesh B. *et al*. (2017). **Feline visceral leishmaniasis in Kerman, southeast of Iran: serological and molecular study**. Journal of Vector Borne Diseases, 54(1), 96-102. | ▪ Sera from 60 stray cats were tested using the ID Screen® Leishmaniasis Indirect.<br>▪ *Results*: seroprevalence was 6.7%. | |

## DOGS AND CATS

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| 16)Bedjaoui S. *et al*. (2024). **Seroprevalence Of Leishmaniosis In Canine And Feline Populations From Gamo Zone In Southern Of Ethiopia**. Poster presented at 9th International Conference on Emerging zoonoses, June 24, Palermo, Italy. | ▪ Sera from 267 healthy dogs and 64 cats were tested using the ID SCREEN® Leishmaniasis Indirect.<br>▪ *Results*:<br>-dogs: seroprevalence was 16.4%<br>-cats: all sera were negative. | |

## WILD CANIDS

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| 17)Padilha T.C. *et al*. (2021). **Serosurvey of antibodies against zoonotic pathogens in free-ranging wild canids (*Cerdocyon thous* and *Lycalopex gymnocercus*) from Southern Brazil**. Comparative immunology, microbiology and infectious diseases, 79, 101716. | ▪ Sera from 52 wild canids (30 *Cerdocyon thous* and 22 *Lycalopex gymnocercus*).were tested using the ID SCREEN® Leishmaniasis Indirect.<br>▪ *Results*: none of the sampled canids showed the presence of antibodies against *L. infantum*. | Specificity data |



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| 18)Fallah E. *et al*. (2011)**. A case report of visceral leishmaniasis in red fox (*Vulpes vulpes*)**. African Journal of Biotechnology, 10(86), 19941-19946. | ▪ Serum from a red fox showing clinical signs associated with canine leishmaniasis was tested using the ID SCREEN® Leishmaniasis Indirect.<br>▪ *Results*: the ID SCREEN® Leishmaniasis Indirect confirmed the seropositivity of the tested red fox. | | | | | Clinical case |