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Diagnostic techniques for leishmaniasis

利什曼原虫病诊断技术

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Animal Health Standardization (SAC/TC181). This document was drafted by: Henan Agricultural University, Beijing Friendship Hospital affiliated to Capital Medical University, Sichuan University, and Xinyang Municipal Animal Husbandry and Veterinary Technology Center. Service Center, Zhengzhou Zhongdao Biotechnology Co., Ltd., China Academy of Quality Inspection and Testing, China Animal Disease Prevention and Control Center. The main drafters of this document are: Zhang Longxian, Zou Yang, Li Junqiang, Wu Yayun, Chen Jianping, Lang Jiashu, Lu Jizhong, Zhao Linping, and Zhao Jinfeng. Wu Shaoqiang, Lin Dong, Li Xiaoying, Wang Rongjun, Ma Chaofeng, Xu Huiyan.

Leishmaniasis is caused by the protozoan Leishmania species belonging to the genus Leishmania in the family Trypanosomatidae. Leishmaniasis is a zoonotic parasitic disease caused by infection with spp. In my country, leishmaniasis is mainly classified into human-derived, canine-derived, and wildlife-derived types. (Dogs) The primary strain is

mainly distributed in Gansu, Sichuan, Shaanxi, Shanxi, Henan, and Hebei provinces of my country, with dogs being the main source of infection. my country had already [implemented this strain] in 1958. Leishmaniasis had been largely eliminated; however, in recent years, the epidemic has shown a gradual resurgence, with cases increasing rapidly in many areas, particularly Shaanxi, Shanxi, and Hebei. Southern and Hebei provinces are severely affected areas for canine leishmaniasis. my country classifies canine leishmaniasis as a Class III animal disease. The genus *Leishmania** contains 53 species of *Leishmania**, 20 of which are pathogenic to humans. According to the World Health Organization (WHO)... It is estimated that approximately 900,000 to

1.6 million new cases are added globally each year; according to statistics from the Chinese Center for Disease Control and Prevention (CDC), in 2023, 15 provinces in China had [a certain number of cases]. A total of 299 cases of human visceral leishmaniasis were reported in 125 counties, of which canine visceral leishmaniasis accounted for 79.3%, or 237 cases. Dogs are the natural host of *Leishmania infantis* and play a key role in the "dog-flying lacewing-human" transmission chain, with sandflies being the main blood-sucking insects. Transmission vector. The parasite species infecting dogs is *Leishmania infantis** (*L. infantum*). This document primarily focuses on the detection of *Leishmania infantis** infection. Target. Leishmaniasis Diagnostic Technology

1 Scope

GB/T 47221-2026 is the Chinese national standard covering diagnosing *Leishmania* infection - a sandfly-borne parasite that infects dogs and people, where the dog is the reservoir, so a veterinary diagnostic method is also a public health instrument. It covers the microscopy, the serological tests and the molecular detection, with their sampling and interpretation. First edition. It was issued on 27 February 2026 and has been in force since 1 September 2026, as a first edition. The document is under the responsibility of the Ministry of Agriculture and Rural Affairs. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This method includes collection, preservation and transportation, microscopic examination, indirect ELISA, PCR, quantitative real-time PCR, and immunochromatographic test strips. This document applies to the diagnosis, surveillance, and epidemiological investigation of canine leishmaniasis.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this

document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 6682 Specifications and test methods for water used in analytical laboratories

NY/T 541 Technical Specifications for Veterinary Diagnostic Sample Collection, Preservation and Transportation

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4. Abbreviations The following abbreviations apply to this document. DMSO. Dimethyl sulfoxide TAE. Tris-Acetate Electrophoresis Buffer

5.1 Popular Characteristics

5.1.1 It exhibits seasonal and regional distribution, which is closely related to the activity season and region of the sandfly, the vector of transmission.

5.1.2 The age of onset shows a "bimodal" distribution, with 80% of infected dogs under 3 years old and another peak in infection between 8 and 10 years old.