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**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/T 18642-2021**

Replacing GB/T 18642-2002

**Diagnostic techniques for Trichinella spp.**

旋毛虫诊断技术

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 18642-2002 "Porcine Trichinosis Diagnosis Technology", compared with GB/T 18642-2002, except for editorial amendments. The main technical changes of the external change are as follows:

- Added normative reference documents (see Chapter 2);
- Added terms and definitions (see Chapter 3);
- Added abbreviations (see Chapter 4);
- Added the enzyme-linked immunosorbent test (ELISA) diagnostic method and the preparation of the enzyme-linked immunosorbent test solution (see Chapter 7, Appendix Record D);
- Added the diagnostic method of fluorescence immunochromatography test paper card, the preparation of the solution for fluorescence immunochromatography test paper card test, and the fluorescence immunochromatography test Paper card structure and judgment diagram (see Chapter 8, Appendix E and Appendix F);
- Added a multiplex polymerase chain reaction (multiplex PCR) diagnostic method for the identification of *Trichinella* species, and a multiplex PCR method Liquid preparation (see Chapter 9, Appendix G);
- Added comprehensive judgment (see Chapter 10);
- Added the schematic diagram of solution preparation and judgment of the tablet

microscopy method (see Appendix A)

---Added the preparation of digestive juice (see Appendix B);

---Added the flow chart of *Trichinella* collection sample digestion method (see Appendix C). Please note that some of the contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents. This standard was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This standard is under the jurisdiction of the National Animal Health Standardization Technical Committee (SAC/TC181). Drafting organizations of this standard. Jilin University, China Center for Animal Health and Epidemiology, China Center for Disease Control and Prevention Control the place. The main drafters of this standard. Liu Mingyuan, Liu Xiaolei, Wang Yuanyuan, Wu Xiuping, Dong Yaqin, Bai Xue, Wang Xuelin, Tang Bin, Yang Yong, Ding Jing. The previous editions of the standard replaced by this standard are as follows:

---GB/T 18642-2002.

*Trichinella* spp. was first discovered in the corpse of a person in London in 1835 by the British scholar James P. Paget. In the same year, Richard Owen named the pathogen *Trichinella spiralis*. At present, 9 species and genus of *Trichinella* have been identified through species identification. 3 unclear genotypes. *Trichinella* is a serious zoonotic parasitic disease that can infect humans and more than 150 animals. It is caused by eating raw or semi-raw meat containing live *Trichinella spiralis* (such as pork, horse meat, dog meat, wild animal meat, etc.). Human trichinosis (Human Trichinellosis) has an incubation period of 2 to 4 weeks and a mortality rate of 2% to 30%. The disease is recognized by the World Organisation for Animal Health (World Organization for Animal Health, OIE) is listed as a compulsory disease for slaughtered animals (especially pigs and horses). The most expensive zoonotic disease in the world has been invested in control. my country's "Category I, II, and III Animal Diseases List" lists it as a Category II animal Plague. The revision of this standard refers to the 2017 edition of the OIE "Manual of Diagnostic Tests and Vaccine Standards for Terrestrial Animals" (Manual of Diagnostic Tests and Vaccines). Tests and Vaccines for Terrestrial Animals, 2017), International Commission on Trichinosis (International Commission on Trichinellosis, ICT) "Recommendations for Serological Tests to Detect *Trichinella* Infections in Animals and Humans". 2018 Edition (Recommendations on the use of serological tests for the detection of *Trichinella* infection in animals and humans, 2018) and Recommendations for Genotyping *Trichinella* Muscle Stage lar-2018 (Recommendations for genotyping *Trichinella* muscle stage lar- vae, 2018) related international standards. Serological diagnosis adds two kinds of enzyme-linked immunosorbent test (ELISA) and fluorescence immunochromatographic test paper cards Technology, serological diagnosis technology determines that the sample is positive or suspected to be positive for *Trichinella* infection can be further confirmed by digestion; molecular biology The diagnosis adds multiple polymerase chain reaction (multiplex PCR) technology. *Trichinella* diagnostic technology

## 1 Scope

GB/T 18642-2021 is the Chinese national standard on diagnostic techniques for trichinella spp, in the field of health care technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 April 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 November 2021. Classification: ICS 11.220, CCS B41. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the pathogenic diagnosis and enzyme-linked immunosorbent test for *Trichinella* in domestic animals (pigs, horses and canines) and wild animals (ELISA), fluorescence immunochromatography test paper card, multiple polymerase chain reaction (multiplex PCR) detection method technical requirements and operating specifications. This standard applies to pig origin quarantine, slaughter and processing, epidemiological investigation, import and export inspection and quarantine, and other animals and their meat. *Trichinella* diagnosis. The listed methods include etiology, serology and molecular biology diagnosis, of which.

---The slide microscopy method and the sample digestion method are suitable for the diagnosis of *Trichinella* in the carcass of pigs and other animals;

---ELISA and fluorescence immunochromatographic test paper card methods are suitable for the screening of *Trichinella spiralis* in pigs and other animal live bodies and carcasses;

---Multiplex PCR method is suitable for the identification of species and genotypes of *Trichinella* isolates.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 6682 Analytical laboratory water specifications and test methods

## 3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Pooled digestion Mix multiple animal muscle samples and dissolve their muscle cells

with a certain concentration of pepsin solution under certain temperature and pH conditions.

3.2 Excretion-secretory products *Trichinella spiralis* secretes various molecular products through the epidermis or excreted through the digestive tract.

3.3 Cysts After *Trichinella* invades the host muscle cells, a cyst wall composed of collagen fibers is formed around the body to escape the host's immune attack.

3.4 Muscle larvae *Trichinella* larvae parasitic on the host muscle cells.

#### 4 Abbreviations

The following abbreviations apply to this document. DMEM. Dulbecco's modified Eagle's medium (Dulbecco's modified Eagle medium) EDC.

1-(3-dimethylaminopropyl)-3-ethylcarbodiimide [1-(3-dimethylaminopropyl)-3-ethylcarbodiimide] ELISA. enzyme-linked immunosorbent assay (enzyme-linked immunosorbent assay)