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Diagnostic techniques for Schmallenberg disease

施马伦贝格病诊断技术

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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 be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is 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 Animal Health Standardization Technical Committee (SAC/TC181). This document was drafted by: China Center for Animal Health and Epidemiology, Chinese Academy of Inspection and Quarantine. The main drafters of this document. Xu Tiangang, Ge Shengqiang, Wu Shaoqiang, Zuo Yuanyuan, Zhang Yongqiang, Lu Yan, Chen Dongjie, Wang Shujuan, Su Hong, Qu Hailong, Li Jinming, Bao Jingyue, Lin Xiangmei, Wang Zhiliang.

A non-contact viral disease of ruminants (cattle, sheep, goats, etc.), mainly characterized by transient clinical symptoms (fever, Diarrhea, reduced milk production, etc.), and congenital malformations in newborn animals. Schmallenberg virus belongs to the family Bunyaviridae The virus is mainly transmitted through vector insects such as Culicoides, and can also be transmitted vertically through intrauterine infection. There is no evidence that the virus can infect humans. The disease was first detected and named in the western German town of Schmallenberg in November.2011, and subsequently caused epidemics in most parts of Europe. OK. The implementation of this document will improve the diagnosis and monitoring level of Schmallenberg disease in my country, take timely prevention and control measures, protect the health and safety of livestock and Industrial development

plays an important role. This document was developed with reference to the World Organization for Animal Health's "Standard Manual of Diagnostic Tests and Vaccines for Terrestrial Animals" (2022 English version), and It combines the new results of relevant technological research in my country. Schmallenberg disease diagnostic technology

1 Scope

GB/T 43159-2023 gives the diagnostic techniques for Schmallenberg disease. The virus appeared in Europe in 2011, spread across the continent within two seasons on biting midges, and causes little in an adult animal but severe malformation in the lambs and calves of ewes and cows infected during gestation - so the disease is usually recognised at birth, months after the infection. It is not present in China, which makes the diagnostic capability a preparedness measure. The standard sets the biosafety measures, the clinical diagnosis, the collection and processing of samples, the laboratory diagnosis by virus isolation, serum neutralisation, blocking ELISA and RT-PCR, and the comprehensive judgement, with normative annexes on the preparation of the solutions for virus isolation and neutralisation and for the blocking ELISA, and an informative annex giving a worked plaque reduction neutralisation example. It took effect on 1 April 2024.

Isolation, fluorescence RT-PCR method, blocking ELISA antibody detection method, serum neutralization test and other laboratory diagnostic methods. This document is applicable to the diagnosis, detection, quarantine, surveillance and epidemiology of Schmallenberg disease in cattle, sheep, goats and other ruminants. investigation.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB 19489 General requirements for laboratory biosafety

3 Terms and definitions

There are no terms or definitions to be defined in this document.

4 Abbreviations

The following abbreviations apply to this document. CPE. cytopathic effect Ct. cycle valve domain (cyclethreshold) FAM. 6-carboxy-fluorescein OD. optical density RNA. ribonucleic acid SBV. Schmalenberg virus