

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

SN/T 2102.4-2008

**Polymerase chain reaction (PCR) for the detection of
food-borne pathogens. Part 4: Requirements for amplification
and detection for qualitative methods**

食源性病原体PCR检测技术规范 第4部分：定性检测方法扩增和检测要求
(English Translation)

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Foreword

SN/T 2102 "PCR detection of foodborne pathogens technical specifications" is divided into four parts.

--- Part 1. General requirements and definitions;

Part --- Article 2. PCR instrument performance test requirements;

--- Part 3. Qualitative detection methods for sample preparation requirements;

--- Part 4. qualitative detection method for amplification and detection requirements.

This section SN/T 2102 Part 4.

The partial modification of the use of ISO 20838:2006 "Microbiology of food and animal feed to detect foodborne pathogens PCR qualitative detection Measuring method amplification and detection requirements, "and made the following changes.

--- On the "Preface" and "Introduction" has been modified;

--- On the "Normative references" description according to GB/T 1.1 requirements were modified;

--- In the "Terms and Definitions" section added real-time fluorescence PCR, real-time fluorescence three definitions RT-PCR and RT values, etc;

--- In the "agent" section joined the "probe" and "fluorescent dye";

--- 7.5 added probe design requirements;

--- The standard international standards with the corresponding national standards or industry standard alternative, such as GB/T 27025 alternative ISO 17025;

--- The "warning" to "the end of the safety requirements, and placed into a standard block";

--- Deleted after the reference standard.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

This part of the People's Republic of China Guangxi Entry-Exit Inspection and Quarantine of Jiangsu People's Republic of China, the Chinese people People's Republic of Shanxi Entry-Exit Inspection and Quarantine of Henan People's Republic of China is responsible for drafting.

Introduction

By amplification and detection of target nucleic acid may determine whether there is a specific nucleic acid sample. The accuracy of the test results depends on the comparison control the detection limit of the system and the effectiveness of the methodology used.

ISO 20838:2006, by the European Committee for Standardization (CEN) Technical Committee on Food Analysis level (CEN/T C275) and food Was Technical Committee (ISO/T C34) microorganism Subcommittee (SC9) in accordance with ISO and CEN technical cooperation agreement to jointly develop.

The partial modification of the use of ISO 20838:2006, as "PCR detection of foodborne pathogens technical specifications" of Section 4, provides qualitative PCR technique nucleotide sequence of food, feed, environmental samples were amplified pathogen detection and confirmation of the general requirements.

SN/T 2102.4-2008/ISO 20838:2006 PCR detection of foodborne pathogens Technical Specifications Part 4. qualitative detection method for amplification and detection requirements

1 Scope

This section SN/T 2102 specifies the basic guidelines for using PCR technology qualitative detection of foodborne pathogens. Including the target nucleic acid Sequence-specific amplification, detection and confirmation of the general requirements. The goal is to ensure that the test results obtained by different laboratories and repetitive Reproducibility.

This section applies to food and feed in the PCR amplification and detection of pathogens, microbial strains and other environmental samples and other samples PCR assay can also refer to use.

2 Normative references

The following documents contain provisions which, through reference SN/T 2102 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to

use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

SN/T 2102.1-2008 foodborne pathogens PCR Detection Technology Specification - Part 1.
General requirements and definitions ISO 16140 Microbiology of food and animal feed
alternative validation procedures

3 Terms and Definitions

SN/T 2102.1 and established the following terms and definitions apply to SN/T 2102 to the present section.

Adding non-specific fluorescent dyes or specific fluorescent probes in a conventional polymerase chain reaction mixture, by detecting each Cycle fluorescence emission signal, indirectly reflects the amount of PCR amplification of target genes record the entire PCR process to determine the Ct value analysis and test results obtained.

Adding non-specific fluorescent dyes or specific fluorescent probes in a conventional reverse transcription polymerase chain reaction mixture through inspection each cycle measured in fluorescence emission signal, indirectly reflects the amount of PCR amplification of target genes record the entire PCR process to determine Ct Value analysis and test results obtained.

Each reaction tube/bore fluorescence signal exceeds the minimum signal the instrument can detect, reaching the threshold set, began to show obvious the number of PCR cycles corresponding to the exponential amplification.

Principle 4

By screening and detection of specific nucleotide sequences in the sample, the pathogen identified to genus, species or lower classification level. in the detection using appropriate control limits within the range of qualitatively detect the presence or absence of the target sequence. Detection steps are as follows.

PCR a) specific amplification of the target sequence;

SN/T 2102.4-2008/ISO 20838:2006