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

GB/T 21751-2025

Replacing GB/T 21751-2008

**Chemicals - Test method of mammalian spermatogonial
chromosomeaberration**

化学品 哺乳动物精原细胞染色体畸变试验方法

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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. This document supersedes GB/T 21751-2008 "Test Method for Chromosomal Aberrations in Mammalian Spermatogonia by Chemicals", and is consistent with... Compared with GB/T 21751-2008, apart from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The wording regarding the scope of application has been changed (see Chapter 1, Chapter 1 of the 2008 edition);
- b) Added terms and definitions such as "aneuploidy," "centromere," "chromosome diversity," "chromosome breakage agent," and "genotoxicity" (see section [number]). Chapter 3);
- c) Added content on "Verification of Laboratory Competence" (see 4.2);
- d) The contents of "Animal Selection," "Animal Housing and Husbandry Conditions," "Animal Preparation," and "Test Substance Preparation" have been revised (see 4.3, 2008 edition). 3.2);
- e) The section on "Solvents and Excipients" (see 4.4.1, 3.3.1 in the 2008 edition) has been amended to include the names of commonly used and preferred solvents or excipients. (See 4.4.1);
- f) The English name of cyclophosphamide monohydrate and the Chinese name of the acrylamide monomer have been changed (see Table 1, 3.3.2 of the 2008 edition);
- g) Added "Negative Control" content (see 4.4.3);
- h) The "Operating Procedures" section has been revised, specifying the number of animals, the administration procedure, the selection of dosage levels, and the route of administration. (See 4.5,

3.4 of the 2008 edition), the required number of metaphase cells to be counted has been changed (see 4.5.7.1, 2008 edition). 3.4.7), and added the observation of laboratory animals (see 4.5.5);

i) Added content on "Quality Assurance and Quality Control" (see 5.2);

1 Scope

GB/T 21751-2025 is the Chinese national standard on chemicals - test method of mammalian spermatogonial chromosome aberration, in the field of environment and health protection, safety. 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 5 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 February 2026. Classification: ICS 13.300, CCS A80. 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 document establishes the basic principles for the chemical assay for chromosomal aberrations in mammalian spermatogonia, and specifies the prescribed procedures, data, and... The report should describe the experimental methods. This document is applicable to testing the genotoxicity of chemicals on mammalian spermatogonia.

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 14925 Laboratory Animal Environment and Facilities

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Chromatid-type aberration Chromosomal structural damage caused by breakage of a single chromatid or breakage and rejoining between chromatids.

3.2 Chromosomal type aberration Chromosomal structural damage caused by the breakage or rejoining of two chromatids at the same site.

3.3 Crack gap Unstained damage that is smaller than the width of the chromatid and

accompanied by very small misalignment of the chromatids.

3.4 Numerical aberration The number of chromosomes differs from the normal number of chromosomes in the cells used.

3.5 Structural aberration Changes in chromosome structure that occur during metaphase of cell differentiation.

Note. This includes chromosomal structural defects such as deletions, fragmentation, internal exchanges, or substitutions. Structural aberrations are observed under a microscope.

3.6 aneuploidy The deviation of one or more chromosomes from the normal number of diploid (or haploid) chromosomes.