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

SN/T 2497.28-2010

**Test method of import and export dangerous chemicals. Part
28: Shuttle vector function in detection of mutagenesis**

进出口危险化学品安全试验方法 第28部分：穿梭质粒在突变检验中的应用
(English Translation)

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Foreword

SN/T 2497 "Test Methods for Chemical Safety & Exports dangerous" series of standards is divided into 29 parts.

- Part 1. mammalian liver cells in vivo DNA synthesis (UDS) test;
- Part 2. plaque-forming cells (PFC) test;
- Part 3. Large Zhuan reproduction test;
- Part 4. *Saccharomyces cerevisiae* mitotic recombination test;
- Part 5. testicular cells UDS test;
- Part 6. mammalian cells in vitro sister chromatid exchange test;
- Part 7. mouse ear swelling test;
- Part --- Article 8. fossa lymph node assay;
- Part 9. Determination of serum hemolysin test;
- Part --- Article 10. T lymphocyte proliferation assay test;
- Part 11. germline mutation assay;
- Part 12. single cell gel electrophoresis test;
- Part 13. fluorescence in situ hybridization;
- Part --- Article 14. SDS- polyacrylamide gel electrophoresis;
- Part 15. PCR-SSCP experiment;
- Part --- Article 16. Western-Blot test;
- Part 17. Behavior of mammalian toxicology tests;
- Part 18. Detection of DNA adducts;

- Part 19. NorthernBlot experiment;
- Part 20. Bradford protein assay;
- Part 21. agarose gel electrophoresis;
- Part 22. T_m value determination method of DNA;
- Part 23. organelle separation experimental methods;
- Part 24. cellular immunity in vitro assay method;
- Part 25. humoral immune function tests;
- Part 26. macrophage function tests;
- Part 27. Flow cytometry of apoptosis;
- Part 28. Application shuttle plasmid mutations Inspection;
- Part 29. Biochemical Oxygen Demand (BOD) was measured.

This section SN/T 2497 series of standards - Part 28.

The partial modification of a "molecular cloning" in the relevant test methods, their relevant technical content of the above-described method is completely consistent with the standard text the present format press GB/T 1.1 made editorial changes.

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

This section is responsible for drafting unit. People's Republic of China Tianjin Entry-Exit-Entry Inspection and Hunan People's Republic of China Quarantine Bureau.

1 Scope

SN/T 2497 provisions of this part of the import and export of dangerous chemicals test shuttle plasmid Mutation Test Application Technology Terms and definitions, test principle, test methods and test results.

This section applies to the import and export of dangerous chemicals Test mutagenicity testing.

2 Normative references

The following documents contain provisions which, through reference SN/T 2497 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.

"Molecular Cloning"

3 Terms and Definitions

The following terms and definitions apply to this section.

Both rely on the shuttle plasmid is a plasmid genome propagation in prokaryotic cells, but also rely on the viral genome replication in a eukaryotic cell Plasmid.

It is a mutagen in mammalian cells the role of targets, sometimes it is a choice given cell gene biometrics.

The DNA was introduced into E. coli or yeast cells, and stably integrated in the genome, so that the recipient cells immortalized change phenomenon.

Viral DNA or RNA into competent E. coli process. Also refers to any DNA (including plasmid DNA) or RNA into Receptor cells in the process.

4 Test principle

In addition to the shuttle plasmid origin of replication in eukaryotic and prokaryotic cells contain, the shuttle plasmid with a mutation-sensitive target genes, mutagenesis After treated plasmid transfected mammalian cells or transfected cells after the first treatment by mutagens, repair and replication in cells recovered plasmid transformation Host bacteria, under certain conditions, screening of mutants, and further mutants of the target gene sequencing to analyze point mutation, type, sequence-specific and other information to mutagenic mechanism of mutagen. Because mutagenesis occurs in mammalian cells, it is possible to truly reflect the high Mechanisms of mutagenesis and other animals; and mutagenesis occurs by host bacteria chromogenic reaction showed a single base substitution in any position which can occur from the table