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

YY/T 0606.15-2023

**Tissue engineered medical products - Standard practice for
evaluation of immune response to matrices and scaffolds:
lymphocyte proliferation test**

组织工程医疗产品 评价基质及支架免疫反应的试验方法：淋巴细胞增殖试验

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1.Structure and Drafting Rules for Standardization Documents" drafting. This document replaces YY/T 0606.15-2014 "Tissue Engineering Medical Products Part

15.Tests for Evaluating Immunoreactivity of Matrix and Scaffolds" Test Method. Lymphocyte Proliferation Test", compared with YY/T 0606.15-2014, except for structural adjustment and editorial changes, the main technical changes Converted as follows:

---Modified the third paragraph of "Scope" as a note (see Chapter 1, Chapter 1 of the.2014 edition);

--- Delete the fourth paragraph of "Scope" and include it after editorial revision (Chapter 1 of the.2014 edition);

--- Deleted ISO /T S10993.20, YY/T 0606.3, YY/T 0606.5 in the normative reference documents (see the.2014 edition chapter 2);

--- Modified the definition of bracket (see 3.2,

3.2 of the.2014 edition);

- Added abbreviations (see Chapter 4);
- Increased the note of antigen stimulation in vivo (see 5.3.2);
- Modified the number of parallel tubes of the specimen (see 5.4.2, 5.4.2 of the.2014 edition);
- Added CCK-8 and CFSE as detection methods for lymphocyte proliferation (see 5.4.5);
- Modify the suspension section as a second-level entry, and modify the number of parallel holes of the specimen (see 5.4.6, 5.4.7,

1 Scope

YY/T 0606.15 specifies the lymphocyte proliferation test as a way of evaluating the immune response provoked by a matrix or scaffold. A tissue-engineered product is meant to be colonised by the patient's own cells, which cannot happen if the recipient's immune system is busy attacking the scaffold, and residual donor antigen in decellularised tissue is the usual cause. The assay exposes lymphocytes to the material and measures whether they proliferate in response, giving an early read on immunogenicity without an animal study. This document fixes how the test is set up, run and interpreted for scaffold materials specifically. For a developer of decellularised or biologically derived scaffolds, this is one of the assays a Chinese biological evaluation dossier is expected to contain.

This document specifies the test method for evaluating the immune response of mammalian cells induced by matrix or scaffold of tissue engineered medical products. Lymphocyte Cell Proliferation Assay. This document is applicable to the biological evaluation of matrix or scaffold for tissue engineering medical products.

Note. In addition to the method selected in this document, other equivalent methods can be adopted.

2 Normative references

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

GB/T 16886.1 Biological evaluation of medical devices Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 matrixsubstrate Raw materials used as cell or biomolecule growth, support or delivery vehicles in tissue engineered medical products.

3.2 bracket scaffold Supports, structural elements, delivery vehicles or matrices consisting of materials of synthetic and/or natural origin for the modulation of biological functions (including (including but not limited to adhesion, migration, proliferation, differentiation), or the translocation of exogenous and/or endogenous cells, and/or the combination of biologically active factors and delivery. [Source: ISO /T S21560.2020, definition 3.14]

4 Abbreviations

The following abbreviations apply to this document. AlamarBlue. Alamar Blue (AlamarBlueKit) BSA. Bovine Serum Albumin (BovineSerumAlbumin)

6 Local reaction test after implantation

GB/T 16886.10 Biological evaluation of medical devices - Part

10 Irritation and skin sensitization tests

GB/T 16886.12 Biological evaluation of medical devices - Part