

National Food Safety Standard
Food Microbiology Testing
Quality Requirements for Culture Media and Reagents

1. Scope

This standard specifies the quality requirements for culture media and reagents used in food microbiology testing.

This standard applies to the quality control of culture media and reagents used in food microbiology testing.

2. Terms and Definitions**2.1 Quality control**

Technical operations and activities taken to meet quality requirements.

2.2 Batches of culture media and reagents

A complete traceable unit of culture medium and reagent refers to a certain quantity of products produced in a specific production cycle, meeting production quality requirements, and having the same batch number.

2.3 Performance of culture media and reagents

The response of culture media and reagents to test strains under certain conditions.

2.4 Culture medium

Substances in liquid, semi-solid or solid form, containing natural or synthetic ingredients, used to ensure the growth, identification or maintenance of microorganisms.

2.5 Liquid culture medium

A culture medium consisting of an aqueous solution containing one or more components (e.g. buffered peptone water).

2.6 Solid culture medium

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A certain amount of solidified material(such as agar) is added to the liquid culture medium, which is sterilized by boiling or moist heat and then solidified into a solid culture medium after cooling to room temperature.

Solid culture medium poured into a plate is generally called a "plate"; solid culture medium poured into a test tube and placed at an angle is usually called a "slant" when the culture medium solidifies.

2.7 Semi-solid medium

A small amount of solidified material (such as agar) is added to the liquid culture medium, which is sterilized by boiling or moist heat and then cooled to form a semi-solid culture medium.

2.8 Transport medium

A culture medium that protects and maintains the activity of microorganisms and does not allow significant proliferation or reduction of microorganisms after sampling and before laboratory processing.

Transport media usually do not contain substances that promote the proliferation of microorganisms, but they should be able to protect the strains(e.g., buffered glycerol-sodium chloride solution transport medium).

2.9 Storage medium

A culture medium used to protect and maintain the vitality of microorganisms for a certain period of time, to prevent the adverse effects of long-term storage, or to facilitate their recovery after long-term storage(e.g., nutrient agar slant).

2.10 Suspension medium

A culture medium, after dispersing the microorganisms of the test sample into a liquid phase, that does not produce proliferation or inhibition during the entire contact process (such as phosphate buffer).

2.11 Recovery medium

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A culture medium that can repair damaged or stressed microorganisms and restore their normal growth capacity, but does not necessarily promote the reproduction of microorganisms (e.g., tryptone soy broth).

2.12 Enriched medium

It is usually a liquid culture medium that can provide a specific growth environment for microbial reproduction.

2.13 Selective enriched medium

A culture medium that allows specific microorganisms to grow while partially or completely inhibiting the growth of other microorganisms (e.g., TTB culture medium).

2.14 Non-selective enriched medium

A culture medium that can ensure the growth of a variety of microorganisms (such as nutrient broth).

2.15 Isolation medium

A solid or semi-solid culture medium that supports the growth of microorganisms.

2.16 Selective isolation medium

A solid culture medium that supports the growth of specific microorganisms and inhibits the growth of other microorganisms (e.g. XLD agar).

2.17 Non-selective isolation medium

A solid culture medium that has no selective inhibition on microorganisms (e.g. nutrient agar).

2.18 Differential medium (specific medium)

A culture medium that can be used to differentiate one or more physiological and/or biochemical characteristics of microorganisms (e.g., eosin-methylene blue agar).

Note: The differential medium that can be used for isolation culture is called isolation (differential) culture medium (e.g. XLD agar).