



Tryptic Soy Broth

Medium for the isolation and cultivation of a wide variety of organisms, according to USP/EP/JP

INTENDED PURPOSE

Tryptic Soy Broth is a liquid culture medium used for the isolation and cultivation of fastidious and non fastidious microorganisms.

DESCRIPTION

Tryptic Soy Broth (TSB) or Casein Soya Bean Digest Broth is a nutritious medium used for the detection, isolation and cultivation of fastidious and nonfastidious microorganisms including bacteria and fungi from different samples.

This medium meets the requirements of the harmonized method in the United States Pharmacopoeia (USP), European Pharmacopoeia (EP) and Japanese Pharmacopoeia (JP) for sterility testing and for microbiological examination of non-sterile products.

TYPICAL FORMULA*

(g/l)

Pancreatic Digest of Casein	17.0
Papaic Digest of Soya Bean	3.0
Sodium Chloride	5.0
Dipotassium Hydrogen Phosphate	2.5
Glucose Monohydrate	2.5
Final pH 7.3 ± 0.2 at 25°C	

*Adjusted and/or supplemented as required to meet performance specifications.

Grams per liter of purified water

METHOD PRINCIPLE

Pancreatic digest of casein and papaic digest of soya bean provide amino acids, nitrogen, carbon, vitamins and minerals for organisms growth. Sodium chloride maintains osmotic balance in the medium. Dipotassium phosphate is a buffering agent. Glucose is an energy source.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as: inoculating loops, sterile cotton swabs, physiological solution, incubator, quality control organisms.

TEST PROCEDURE

Inoculate the sample or material to be tested into the medium. Incubate under appropriate atmosphere, temperature and time depending on the purpose for which the media are used.

Refer to listed references for more details.

INTERPRETING RESULTS

The presence of turbidity compared to uninoculated control, or a pellicle formation indicates microbial growth. Subculture to suitable solid media for complete identification of the isolated colonies.

If the material being tested renders the medium turbid and a visual examination is not possible at the end of the incubation period, subculture to fresh TSB or onto appropriate solid media to ensure that turbidity is caused by the sample only and it is not a result of microorganisms multiplying in the broth.

STORAGE

Store at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

SHELF LIFE

2 years.

QUALITY CONTROL

Appearance of medium: Clear to very slight opalescent, light amber to amber.

Expected Cultural Response:

Control strains	Inoculum	Incubation	Specification
<i>Staphylococcus aureus</i> ATCC® 6538	≤100 CFU	18-24 h / 32.5 ± 2.5°C	Good growth
<i>Escherichia coli</i> ATCC® 8739			
<i>Pseudomonas aeruginosa</i> ATCC® 9027			
<i>Bacillus subtilis</i> ATCC® 6633		24-48 h / 32.5 ± 2.5°C	
<i>Clostridium sporogenes</i> ATCC® 19404		Up to 5 days / 22.5 ± 2.5°C	
<i>Candida albicans</i> ATCC® 10231			
<i>Aspergillus brasiliensis</i> ATCC® 16404			

Please refer to the actual batch related Certificate of Analysis (CoA).

PERFORMANCE CHARACTERISTICS

Performance testing of Tryptic Soy Broth was carried out using the QC strains listed above. The results obtained met the established criteria.

LIMITATIONS

Invalid results can be caused by poor sample quality, improper sample collection, improper transportation, improper laboratory processing, or a limitation of the testing technology. The operator should understand the principles of the procedures, including its performance limitations, in advance of operation to avoid potential mistakes.

Growth depends on the requirements of each individual microorganism. It is therefore possible that certain strains which have specific requirements (substrate, temperature, incubation conditions, etc.) may not develop.

WARNING AND PRECAUTIONS

For professional use only. Operators must be trained and have certain experience. Please read the instructions carefully before using this product. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this document.

Consult the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to national and local regulations in force.

BIBLIOGRAPHY

See the references at the end of this document.

TABLE OF SYMBOLS

See the table of symbols at the end of this document.

ORDER INFORMATION

Product	Format		Packaging	Ref.
Tryptic Soy Broth	16x100mm Plastic Tube with screw cap and self-standing base		100 x 10 ml	26513P

Revision History

Revision	Release Date	Change Summary
0	2024-10-22	Document creation

This IFU document and the SDS are available from the online Support Center:

liofilchem.com/ifu-sds

References

1. United States Pharmacopeial Convention (2014) The United States Pharmacopeia 38/National Formulation 33, Supp. 2. Chapter <61> Microbiological examination of non-sterile products: Microbial enumeration tests and Chapter <62> Microbiological examination of non-sterile products: Test for specified products. Chapter <71> Sterility Tests. Rockville, Md., USA.
2. European Directorate for the Quality of Medicines and Healthcare (2014) The European Pharmacopoeia. 8th Ed. Chapter 2.6.12 Microbiological examination of non-sterile products: Microbial enumeration tests and Chapter 2.6.13 Microbiological examination of non-sterile products: Test for specified products. Chapter 2.6.1 Sterility. Strasbourg, France.
3. PDA Technical Report No. 13 (2014 Revised) Fundamentals of an Environmental Monitoring Program.
4. Japanese Ministry of Health, Labour and Welfare (2011) The Japanese Pharmacopoeia. 16th Ed. Chapter 4.05 Microbial Limit Test I. Microbiological examination of non-sterile products: Total viable aerobic count and II. Microbiological examination of non-sterile products: Test for specified products. Japanese Ministry of Health, Labour and Welfare. Tokyo, Japan.
5. Pharmaceutical Inspection Convention Co-operation Scheme (PIC/S). Recommendation on the Validation of Aseptic Processes (2011) Revision 6.

Table of Symbols

	Batch code
	Catalogue number
	Manufacturer
	Use by
	Fragile, handle with care
	Temperature limitation
	Contains sufficient for <n> tests
	Consult instructions for use
	Do not reuse
	Keep away from sunlight



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