



TRYPTIC SOY BROTH

INTENDED USE

Tryptic (Trypticase) Soy Broth (Soybean-Casein Digest Medium) is a general purpose medium used in qualitative procedures for the cultivation of fastidious and nonfastidious microorganisms from a variety of clinical and nonclinical specimens.

SUMMARY AND EXPLANATION

Tryptic (Trypticase) Soy Broth (TSB) is a nutritious medium that will support the growth of a wide variety of microorganisms, including common aerobic, facultative and anaerobic bacteria and fungi. This formulation is included in the USP as a medium for use in performing microbial enumeration tests and tests for specified microorganisms when testing nonsterile pharmaceutical products.¹

TSB was chosen by the USDA Animal and Plant Health Inspection Service for detecting viable bacteria in live vaccines.² TSB is recommended for testing bacterial contaminants in cosmetics and complies with established standards in the food industry.

Because of its capacity for growth promotion, TSB is also recommended for use as the inoculum broth for disc diffusion and agar dilution antimicrobial susceptibility testing as standardized by the Clinical and Laboratory Standards Institute (CLSI).³

PRINCIPLE

Enzymatic digests of casein and soybean provide amino acids and other complex nitrogenous substances. Dextrose is an energy source. Sodium chloride maintains the osmotic equilibrium. Dibasic potassium phosphate acts as a buffer to control pH.

REAGENTS (FORMULA)

Pancreatic Digest of Casein	17.0	g
Pancreatic Digest of Soybean	3.0	g
Sodium Chloride	5.0	g
Dextrose	2.5	g
Dipotassium Phosphate	15.0	g
Deionized Water	1000.0	ml

PROCEDURE

Swab specimens may be inserted into the medium after inoculation of appropriate plated media. For liquid specimens, use a sterile inoculating loop to transfer a loopful of the specimen to the broth medium. Specimens known or suspected to contain obligate anaerobes should be inoculated near the bottom of the tube.

Incubate the tubes and bottles with loosened caps at $35 \pm 2^\circ\text{C}$ aerobically with or without supplementation with carbon dioxide. Tubed and bottled media intended for the cultivation of anaerobes should be incubated under anaerobic conditions. Examine for growth after 18-24 hours and 42-48 hours of incubation.

EXPECTED RESULTS

Growth in broth media is indicated by the presence of turbidity compared to an uninoculated control. Broth cultures should be held for at least a week before discarding as negative.

QUALITY CONTROL

All lot numbers have been tested and have been found to be acceptable. Customers can test products using the following quality control organisms. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

Organisms	Incubation	Results
<i>Staphylococcus aureus</i> ATCC 6538	$30-35 \pm 2^\circ\text{C}$ for 18-48 hours	Growth
<i>Escherichia coli</i> ATCC 8739	$30-35 \pm 2^\circ\text{C}$ for 18-48 hours	Growth

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BIBLIOGRAPHY

1. United States Pharmacopeial Convention, Inc. 2008. The United States pharmacopeia 31/The national formulary 26, Supp. 1, 8-1-08, online. United States Pharmacopeial Convention, Inc., Rockville, Md.
2. Federal Register. 1992. Fed. Regist. 21:113.26.
3. Clinical and Laboratory Standards Institute. 2006. Approved Standard M2-A9: Performance standards for antimicrobial disk susceptibility tests, 9th ed., CLSI, Wayne, Pa.

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