TRYPTIC SOY BROTH (7164)

Intended Use

Tryptic Soy Broth is used for the cultivation of a wide variety of microorganisms. Tryptic Soy Broth conforms with the formula specified in the US Pharmacopeia, USP.[1]

Product Summary and Explanation

Tryptic Soy Broth, a general purpose medium, is commonly referred to as Soybean-Casein Digest Medium, and abbreviated as TSB. This medium was originally developed for use without blood in determining the effectiveness of sulfonamides against pneumococci and other organisms.[2] Clostridia and non-sporulating anaerobes grow luxuriantly in this broth when incubated under anaerobic conditions. TSB is recommended for testing bacterial contaminants in cosmetics[3] and complies with established standards[4,5] in the food industry. TSB was chosen by the USDA Animal and Plant Health Inspection Service for detecting viable bacteria in live vaccines.[6]

Tryptic Soy Broth is recommended by the National Committee for Clinical Laboratory Standards (NCCLS)[7] for inoculum preparation in disk diffusion sensitivity tests. The rich nutritional base of TSB, supplemented with SPS and CO_2, is an excellent broth for blood cultures in clinical applications.[8] With the addition of 6.5% NaCl, TSB can be used for the selective growth of group D streptococci.

Principles of the Procedure

Enzymatic Digest of Casein and Enzymatic Digest of Soybean Meal are nitrogen sources in TSB. Dextrose is the carbon energy source that facilitates organism growth. Sodium Chloride maintains osmotic balance; Dipotassium Phosphate is a buffering agent.

Formula / Liter

Enzymatic Digest of Casein 17g
Enzymatic Digest of Soybean Meal ..... 3 g
Sodium Chloride ..... 5 g
Dipotassium Phosphate ..... 2.5 g
Dextrose ..... 2.5 g
Final pH: 7.3 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Dissolve 30 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is clear to very light amber.

Expected Cultural Response: Cultural response in TSB at 35°C after 18 - 24 hours incubation.

Microorganism	Response
Bacteroides vulgatus ATCC® 8482	fair to excellent
Escherichia coli ATCC® 25922	good to excellent
Neisseria meningitidis ATCC® 13090	poor to good
Staphylococcus aureus ATCC® 25923	good to excellent
Staphylococcus epidermidis ATCC ® 12228	fair to excellent
Streptococcus pneumoniae ATCC® 6305	fair to excellent
Streptococcus pyogenes ATCC® 19615	good to excellent

The organisms listed are the minimum that should be used for quality control testing.

USP Growth Promotion Testing: Cultural response in TSB within 7 days incubation under appropriate temperatures and conditions.

Microorganism	Response
Aspergillis niger ATCC ® 16404	growth
Bacillus subtilis ATCC® 6633	growth
Candida albicans ATCC® 10231	growth
Micrococcus luteus ATCC® 9341	growth

The organisms listed are the minimum that should be used for USP Growth Promotion testing.

Test Procedure
Refer to appropriate references for specific procedures using Tryptic Soy Broth.[1,3-8]

Results
Refer to appropriate references for test results.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original pale to light beige. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to nutritional variation, some strains may grow poorly or fail to grow on this medium.

Packaging

Tryptic Soy Broth	**Code No.**	**7164A**	**500 g**
		7164B	**2 kg**
		7164C	**10 kg**

References

1. **United States Pharmacopeial Convention.** 1995. The United States pharmacopeia, 23rd ed. The United States Pharmacopeial Convention, Rockville, MD.
2. **McCullough, N. B.** 1949. Laboratory tests in the diagnosis of brucellosis. Amer. J. of Public Health. **39:**866-869.
3. **Curry, A. S., G. G. Joyce, and G. N. McEwen, Jr.** 1993. CTFA Microbiology guidelines. The Cosmetic, Toiletry, and Fragrance Association, Inc. Washington, D.C.
4. **U.S. Food and Drug Administration.** 1995. Bacteriological analytical manual, 8thed., AOAC International, Gaithersburg, MD.
5. **Cunnif, P.** 1995. Official methods of analysis AOAC International, 16th ed. AOAC International, Arlington, VA.
6. **Federal Register.** 1992. Detection of viable bacteria and fungi except in live vaccine. Fed. Regist. **21:**113.26.
7. **National Committee for Clinical Laboratory Standards.** 1994. Performance standards for antimicrobial disk susceptibility tests, M2-A5, vol.13, No.24. National Committee for Clinical Laboratory Standards, Villanova, PA.
8. **Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds).** 1995. Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.