

TRYPTIC SOY BROTH
(SOYBEAN-CASEIN DIGEST BROTH)
 FOR STERILITY TESTING, MICROBIAL LIMIT TESTING,
 FOOD, DAIRY, AND WATER TESTING

PRODUCTS:

Tubed Media:	10 ml	T8778, T8780, T8781
	15 ml	T8787, T8788
	20 ml	T8792, T8793
Bottled Media:	Serum Bottle with Septum Stopper:	B8824, B8830, B8835, B8842, B8850, B8865 (DuoTek®) WrapSure®: B8995, B8849, B8990
	Wide Mouth Jar:	B8859, B8877, B8899, B8880 (MonoTek®)
	Screw Cap:	B8886, B8840, B8879, B8992 (WrapSure) Polycarbonate Bottle: B8918, B8950EM* (Non-animal media), B8905
Bagged Media:	10 Liter Flexboy® Bag	B8857

*EM: made with EMD Chemicals Inc. brand media powder

PURPOSE:

Tryptic Soy Broth is a general purpose media that is used for the cultivation of a wide variety of organisms, including fastidious and nonfastidious microorganisms. It meets The U.S. Pharmacopeia (USP) Standards for use as a sterility test media and for use in performing microbiological examination of nonsterile products. Tryptic Soy or Soybean-Casein Digest Broth is included in standard methods for the examination of wastewater, water, and foods, and was chosen by the USDA Animal and Plant Health Inspection Service for detecting viable bacteria in live vaccines.

PRINCIPLE:

Tryptic Soy is a highly nutritious media and is commonly used as a base media for the cultivation of microorganisms. Casein and soy peptones in the media supply nutritious organic nitrogen, while glucose and sodium chloride maintain the osmotic equilibrium and buffers. Dextrose also provides a source of carbon which facilitates organism growth.

WrapSure products are sterilized inside of two autoclavable bags, allowing use of the product in a critical environment. WrapSure products are validated sterile at a Sterility Assurance Level (SAL) of 10⁻⁶.

The MonoTek and DuoTek products are irradiated bottles and validated sterile at a SAL of 10⁻⁶. The bottle material is a resin PETG®. The optically clear bottle is lightweight and suitable for environmentally friendly disposal and cost effective shipping. The MonoTek has a wide-mouth screw cap opening (46mm) for direct transfer of larger articles. The DuoTek septum/screw cap combination allows both an injectable septum for liquid specimens as well as a wide-mouth screw cap opening.

FORMULA*:

Approximate, per liter of deionized filtered water.

Tryptic Soy Broth:	
Pancreatic Digest of Casein	17.0 g
Enzymatic Soy Digest	3.0
Dextrose	2.5
Sodium Chloride	5.0
Dipotassium Phosphate	2.5
Final pH 7.3 ± 0.2 at 25°C	

*Adjustments may be required to meet performance standards.

PRECAUTIONS:*

For laboratory use only. Observe approved biohazard precautions.

Storage: Upon receipt store at 2-25°C away from direct light. Media should not be used if there are signs of contamination, deterioration (i.e. discoloration), or if the expiration date has passed. Do not open outer wrapping on WrapSure until ready to use.

Media can be inoculated up to the expiration date and incubated for the appropriate incubation period.

Limitations: This is a primary isolation media. Any growth should be inoculated to appropriate growth/isolation media and identified by appropriate biochemical and/or serological tests.

The presence of dextrose in Tryptic Soy Broth makes the media unsuitable for maintaining stock cultures; the fermentation of dextrose by the microorganisms may acidify the media and lead to the destruction of the microbes. These broths are not typically used for direct inoculation of specimens but are used for the growth enhancement of isolated organisms.

When the integrity of the seal or outer wrap of the WrapSure is compromised, the product is no longer considered sterile.

PROCEDURE:*

Specimen Collection: Information on specimen collection is found in standard reference material. In general specimens should be protected from extreme heat and cold.

Method of Use: Inoculate using USP microorganisms or other appropriate reference guidelines. Incubate aerobically 1 to 3 days at 32.5°C +/- 2.5°C for bacteria. Incubate yeasts and fungi at 22.5°C +/- 2.5°C for 1 to 5 days.

Interpretation:

Visually examine the broth for turbidity, streaks, or "puff ball" growth.

Materials Required but Not Provided: Standard supplies and equipment commonly found in a microbiological laboratory are not provided.

QUALITY CONTROL:*

Microorganisms Used (ATCC #)†:	Expected Results:
<i>Bacillus subtilis</i> (6633)	Growth
<i>Candida albicans</i> (10231)	Growth
<i>Aspergillus brasiliensis</i> (16404)	Growth

†Minimum number of strains required for testing

User Quality Control: Check for signs of contamination and deterioration (color, clarity). Tryptic Soy Broth should appear clear, and light amber in color. For more detailed information, consult appropriate references or regulatory guidelines.

BIBLIOGRAPHY:

1. Brewer, J. H., *J. Am. Med. Assoc.*, 115:598, 1940.
2. Downes, F. P., Ito, K. (eds.), *Compendium of Methods for the Microbiological Examination of Foods*, 4th ed., American Public Health Association, Washington D. C., 2001.
3. Federal Register, *Detection of viable bacteria and fungi except in live vaccine*, Fed. Regist. 21:113.26, 1992
4. Franson, M. A. H. (ed.), *Standard Methods for the Examination of Water and Wastewater*, 20th ed., American Public Health Association, Washington D. C., 1998.
5. Horwitz (ed.), *Official methods of analysis of AOAC International*, 17th ed., vol. 1, AOAC International, Gaithersburg, Md., 2000.
6. Murray, P. R., et al., *Manual of Clinical Microbiology*, 8th ed., American Society for Microbiology, Washington D.C., 2003.
7. U.S. Food and Drug Administration, *Bacteriological analytical manual*, 8th ed., AOAC International, Gaithersburg, Md., 1995.
8. *United States Pharmacopeia National Formulary 30 - NF 25*, Vol. 1, 2007.

*For more detailed information, consult appropriate references.

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