

TECHNICAL DATA SHEET

Todd Hewitt Broth

Principle

Todd Hewitt Broth was originally developed for the production of antigenic streptococcal hemolysin. The media formula is described according to Updyke and Nickle. It is used for serological studies of group A streptococci. Todd Hewitt Broth is composed of beef heart, peptone, dextrose, sodium chloride, disodium hydrogen phosphate, and sodium carbonate. Beef heart and peptone provide an ample amount of the carbon and nitrogen essential amino acids, along with vitamins and trace minerals. Dextrose is the carbon source and stimulant for hemolysin production. Sodium chloride maintains the osmotic equilibrium of the medium. Disodium hydrogen phosphate and sodium carbonate act as buffers and support neutralizing acid production from dextrose fermentation. Buffer also protects the hemolysin from inactivation.

Use: For cultivation of group A haemolytic Streptococci used for serological studies.

Contents*

Ingredients	Gram/Liter
Beef Heart, Infusion form	500.000
Peptone	20.000
Dextrose	2.000
Sodium Chloride	2.000
Disodium hydrogen phosphate	0.400
Sodium carbonate	2.500
pH at 25°C	7.8 ± 0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 37.0 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute as desired. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C and inoculate test sample aseptically.

Specimens types analyzed

Clinical and non-clinical samples.

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Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com



Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light beige colored, free flowing, homogeneous powder
Reaction of 3.7% solution	7.8 ± 0.2 at 25°C
pH	7.60 – 8.00
Color and clarity of ready medium	Light to medium amber colored, clear solution.
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Cultural characteristics observed after incubation at 35±2°C for 18-48 hours.

Organism	ATCC	Inoculum (CFU)	Growth
<i>Streptococcus pneumoniae</i>	6303	50-100	Luxuriant
<i>Streptococcus pyogenes</i>	19615	50-100	Luxuriant
<i>Neisseria meningitidis</i>	13090	50-100	Luxuriant

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

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Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Updyke, E. L., and M. I. Nickle. 1954. A dehydrated medium for the preparation of type specific extracts of group A streptococci. *Appl. Microbiol.* 2:117.
4. MacFaddin, J. D. 1985. Media for isolation-cultivation identification-maintenance medical bacteria, p.772 -775. vol. 1. Williams & Wilkins, Baltimore, MD.

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