

Todd Hewitt Broth

Todd Hewitt Broth is recommended for the cultivation of group A haemolytic streptococci used for serological studies.

REF: BS.1/HT01.100.0100
REF: BS.1/HT01.500.0500

100 Gram
500 Gram

REF: BS.1/HT01.250.0250

250 Gram

CLINICAL SIGNIFICANCE

Humans are the natural reservoir for group A, beta-haemolytic *streptococci*. The organisms are transmitted from person to person by the respiratory route and it causes pharyngitis, tonsillitis, sinusitis, otitis media, cervical adenitis, pyoderma, lymphadenitis, bacteremia, osteomyelitis, arthritis and endocarditis. Pharyngitis is the most common infection caused by group A streptococci. In 1985, outbreaks of rheumatic fever have been reported in the Salt Lake City area, California. In these outbreaks, some persons did not recall having had a streptococcal infection. In such cases, and in the diagnosis of non-suppurative sequelae, serologic studies are helpful for respective documentation of previous group A streptococcal infection. Todd Hewitt Broth, which was initially developed to produce streptococcal haemolysin was further modified by Updyke and Nickle for cultivation of beta-haemolytic *streptococci* (1, 2) for different serological tests. This medium is also recommended for selective isolation of group B *streptococci* with added gentamicin and nalidixic acid. This medium has been recommended as an alternative type in epidemiologic studies of group A *streptococci* as well as pathogenic microorganisms. With the addition of 15 g/l agar, the medium can be solidified and used as an excellent substrate for the production of capsules in streptococci.

METHOD PRINCIPLE

Todd Hewitt Broth medium is very nutritious due to the presence of peptic digest of animal tissue and beef heart infusion. Dextrose stimulates haemolysin production. The medium is well buffered by sodium phosphate and sodium carbonate to neutralize the acid produced during dextrose fermentation. This restricts destruction of antigenic streptococcal haemolysin. It is also found that sodium phosphate have a stimulating effect on the pneumococcal growth. Todd Hewitt Broth can be employed as an alternative to serum broth or horse flesh digest broth for the cultivation of *streptococci* prior to serological typing (3).

MEDIA COMPOSITION

Item	Formula per liter of medium
- Beef heart, infusion from	500.00 gm.
- Peptic digest of animal tissue	20.00 gm.
- Dextrose	2.000 gm.
- Sodium chloride	2.000 gm.
- Disodium phosphate	0.400 gm.
- Sodium carbonate	2.500 gm.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice

immediately.

- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental Contamination.

S61: avoid release in environment.

For further information, refer to the Todd Hewitt Broth material safety data sheet.

STORAGE AND STABILITY

BioScien Todd Hewitt Broth dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.8 ± 0.2 at 25°C

MEDIA PREPARATION

1. Suspend 37 grams in 1000 ml distilled water.
2. Adjust pH to 7.8 ± 0.2 at 25°C
3. Mix well and dispense as desired.
4. Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.

Deterioration

The color of **BioScien** Todd Hewitt Broth is Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.

The hydrated medium is Medium amber coloured clear solution without ant precipitate. Media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

SPECIMEN COLLECTION AND PRESERVATION

Clinical samples: Blood

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile test tubes
- Sterile loops
- Incubator

PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Fits your perfection

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours

Test Organisms	Growth
<i>Neisseria meningitidis</i> ATCC 13090	Good-luxuriant
<i>Streptococcus mitis</i> ATCC 9811	Good-luxuriant
<i>Streptococcus pneumoniae</i> ATCC 6303	Good-luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	Good-luxuriant

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. Todd E. W. and Hewitt L. F., 1932, J. Pathol. Bacteriol., 35:973.
2. Updyke E. L. and Nickle M. I., 1954, Appl. Microbiol., 2:117.
3. Forbes B. A., Sahm D. F. and Weissfeld A. S., 1998, Bailey & Scotts Diagnostic Microbiology, 10th Ed., Mosby, Inc., St. Louis, Mo.

SYMBOLS IN PRODUCT LABELLING			
IVD	For in-vitro diagnostic use		Number of <n> test in the pack
LOT	Batch Code/Lot number		Caution
REF	Catalogue Number		Do not use if package is damaged
	Temperature Limitation		Consult Instruction for use
	Expiration Date		
	Manufactured by		