



Todd Hewitt Broth w/ Colistin & Nalidixic acid

M2127

Intended Use:

Recommended for selective cultivation of group B Streptococci.

Composition**

Ingredients	g / L
HM infusion B from 500 g #	10.100
Peptone	20.000
Dextrose (Glucose)	2.000
Sodium chloride	2.000
Disodium hydrogen phosphate	0.400
Sodium carbonate	2.500
Colistin	0.010
Nalidixic acid	0.015
Final pH (at 25°C)	7.8±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef heart, infusion from

Directions

Suspend 37.03 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Mix well and dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Todd Hewitt Broth, which was initially developed to produce streptococcal haemolysin and was further modified by Updyke and Nickle for cultivation of β -haemolytic streptococci (1,2) for different serological tests. The medium is also recommended for selective isolation of group B streptococci with added colistin and nalidixic acid. This medium has been recommended as an alternative type in epidemiologic studies of group A streptococci as well as pathogenic microorganisms.

Group B Streptococcus is a leading infection causing illness and death in newborns. Group B streptococci can also cause serious diseases in pregnant women, the elderly, and adults with other illnesses. GBS normally reside in the vagina of women and rectum of men and women (3). In newborns, group B strep is the most common cause of sepsis (infection of the bloodstream) and meningitis (infection of the lining and fluid surrounding the brain) and a common cause of pneumonia. In adults, group B strep can rarely lead to serious bloodstream infections, urinary tract infections, skin infections, and pneumonia, especially in people with weak immune systems. Heavy colonization of the maternal genital tract is associated with colonization of infants and risk of neonatal disease (4).

Todd Hewitt Broth medium is very nutritious due to the presence of Peptone and HM infusion B. Dextrose stimulates haemolysin production. Colistin and nalidixic acid inhibits the accompanying microflora especially gram negative bacteria. 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 (5).

Type of specimen

Clinical samples - Vaginal secretions

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,6). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling

specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Medium amber coloured clear solution without any precipitate

Reaction

Reaction of 3.70% w/v aqueous solution at 25°C. pH : 7.8±0.2

pH

7.60-8.00

Cultural Response

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

Organism	Inoculum (CFU)	Growth
<i>Streptococcus agalactiae</i> ATCC 13813	50-100	good-luxuriant
<i>Escherichia coli</i> ATCC 25922 (00013)*	50-100	none-poor

Key :(*) Corresponding WDCM numbers

Storage and Shelf Life

Store between 2-8°C in a tightly closed container and the prepared medium 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 prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in 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.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,6).

Reference

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. Anthony BF, Okada DM, Hobel CJ. Epidemiology of group B *Streptococcus*: longitudinal observations during pregnancy. J.Infect Dis 1978; 137:524-30.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Forbes B. A., Sahm D. F. and Weissfeld A. S., 1998, Bailey & Scotts Diagnostic Microbiology, 10th Ed., Mosby, Inc., St. Louis, Mo.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

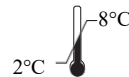
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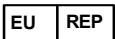
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