

Tergitol-7 HiVeg™ Agar H

MV850

Intended Use:

Recommended for selective isolation and differentiation of enteric bacteria.

Composition**

Ingredients	g / L
HiVeg™ peptone No. 3	5.000
Yeast extract	3.000
Lactose	10.000
Ferric ammonium citrate	0.500
Sodium thiosulphate	0.500
Bromo thymol blue	0.025
Tergitol 7 (Sodium heptadecyl sulphate)	0.100
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 34.13 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add 3 ml of 1% 2,3,5, Triphenyl Tetrazolium Chloride (TTC) Solution (FD057), if desired. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Tergitol-7 Agar was originally designed by Chapman (1) and later on modified by incorporating 2,3,5-Triphenyl Tetrazolium Chloride (TTC) into the medium. This medium is selective and differential used for the detection and enumeration of coliform organisms. Pollard (2) has reported the selective bactericidal property of sodium heptadecyl sulphate (Tergitol-7). Kulp et al (3) corroborated the use of Tergitol-7 Agar with TTC in routine analysis of water and Mossel (4) used this medium for the examination of food materials.

Tergitol-7 Agar H, is a modification of Chapman formulation (1) used for selective isolation and differentiation of enteric bacilli from urine samples. It contains sodium thiosulphate as an indicator of H₂S production. H₂S producing bacteria form black colonies or colonies with black centres. Tergitol-7 HiVeg™ Agar H is prepared by completely replacing animal based peptone with vegetable peptones to avoid BSE/TSE risks associate with animal peptones.

HiVeg™ peptone No. 3 and yeast extract serve as sources of carbon, nitrogen and other essential nutrients including vitamin B complex. Sodium heptadecyl sulphate (Tergitol-7) inhibits gram-positive bacteria and *Proteus* swarming and yields better recovery of coliforms. Bromo thymol blue is the pH indicator. Lactose fermenting organisms form yellow colonies with yellow zones while *Klebsiella* and *Enterobacter* form greenish yellow colonies. Lactose non-fermenters produce blue colonies. TTC is reduced in the bacterial cell to form formazan, a red coloured insoluble complex, thereby producing red coloured colonies.

Type of specimen

Water samples

Specimen Collection and Handling:

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

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.

Limitations :

1. Further biochemical and serological tests must be carried out for further identification.

Performance and Evaluation

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

Quality Control

Appearance

Cream to light green homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Green coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.41% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours, with added TTC solution 1%(FD057)

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony	H2S
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	good-luxuriant	≥50%	yellow	negative
<i>Proteus mirabilis</i> ATCC 25933	50-100	good-luxuriant	≥50%	blue	positive
<i>Klebsiella pneumoniae</i> ATCC 13883 (00097*)	50-100	fair-good	30-40%	greenish yellow	negative
<i>Salmonella</i> Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant	≥50%	blue	positive
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	≥10 ⁴	inhibited	0%		

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

1. Chapman G.H., 1947, J. Bact., 53:504.
2. Pollard A.L., 1946, Science, 103:758.
3. Kulp W., Mascoli C. and Tavshanjian O., 1953, Am. J. Public Health, 43:1111.
4. Mossel D.A.A., 1962, J. Appl. Bact., 25:20.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.

Revision : 04/2024

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.