Technical Information

Tergitol-7 Agar H

Product Code: DM 1850

Application: - Tergitol-7 Agar H is recommended for selective isolation and differentiation of enteric bacteria from urine specimens.

Composition**

Ingredients	Gms / Litre
Proteose peptone	5.000
Yeast extract	3.000
Lactose	10.000
Ferric ammonium citrate	0.500
Sodium thiosulphate	0.500
Bromo thymol blue	0.025
Sodium heptadecyl sulphate(Tergitol-7)	0.100
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance

Principle & Interpretation

Tergitol-7 Agar was originally discovered 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 shown 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 H_2S production in which the H_2S producing bacteria form black colonies or colonies with black centres on the medium under refrence.

Proteose peptone and yeast extract serve as sources of carbon, nitrogen and other essential nutrients including vitamin B complex. Sodium heptadecyl sulphate (Tergitol-7) inhibits the growth of 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 colo ured colonies.

Methodology

Suspend 34.13 grams of powder media in 1000 ml distilled water. Shake well & heat 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 Triphenyl Tetrazolium Chloride (TTC) Solution (MS2057), if desired. Mix well and pour into sterile Petri plates.

Quality Control

Physical 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 3.4 1% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH range

7.00-7.40

Cultural Response/Characteristics

DM1850: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours, with added TTC solution 1%(MS2057)

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony	H_2S
Escherichia coli ATCC 25922	50-100	good-luxuriant	>=50%	yellow	negative
Proteus mirabilis ATCC 25933	50-100	good-luxuriant	>=50%	blue	positive
Klebsiella pneumoniae ATCC 13883	50-100	fair-good	30-40%	greenish yellow	negative
Salmonella Enteritidis ATCC 13076	50-100	good-luxuriant	>=50%	blue	positive
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%		

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

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.
Revision.

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