

TM 1251- LACTOSE TTC AGAR (WITH SODIUM HEPTADECYL SULPHATE) (ISO 9308-1:2000)

INTENDED USE

For detection and enumeration of *E.coli* and other coliforms in water by membrane filtration technique.

PRODUCT SUMMARY AND EXPLANATION

Lactose TTC Agar is a selective and differential medium, recommended by ISO Committee for the detection and enumeration of coliforms in water. This medium was modified by Chapman where he improved his original formula of Tergitol-7 Agar by addition of Triphenyl Tetrazolium Chloride (TTC). The composition and performance criteria of this medium are as per the specifications laid down in ISO 9308-1:2000.

COMPOSITION

Ingredients	Gms / Ltr
Lactose	20.000
Agar	16.000
Peptone	10.000
Yeast extract	6.000
Beef extract	5.000
Sodium heptadecyl sulphate	0.100
Bromothymol blue	0.050

PRINCIPLE

Medium contains Peptone, Beef extract and Yeast extract which provides the nitrogen, carbon compounds, vitamins and amino acids. Lactose is the fermentable sugar. Sodium heptadecyl sulphate (Tergitol 7) helps in inhibiting most gram-positive bacteria. Bromothymol blue is a pH indicator which helps in detecting the fermentation of lactose by causing changes in the colour of the medium. The lactose fermenters show greenish yellow colonies with yellow zones while lactose non-fermenters show red colonies surrounded by blue zones. Agar is a solidifying agent

INSTRUCTION FOR USE

- Dissolve 57.15 grams in 1000ml distilled water.
- Gently heat to boiling with gentle swirling and dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool to 45-50°C.
- Aseptically add 3ml of Triphenyl Tetrazolium Chloride (TTC) Solution 1% (TS 042).
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	:	Cream to light green, Homogeneous free flowing powder
Appearance of Prepared medium	:	Green coloured, clear to slightly opalescent gel
pH (at 25°C)	:	7.2± 0.2

INTERPRETATION

Cultural characteristics observed after incubation with or without addition of TTC solution 1% (TS 042).

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony without supplement	Colour of colony with supplement	Incubation Temp.	Incubation Period
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	>=50%	Yellow	Reddish brown	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	>=50%	Yellow	Yellow with red centre	35-37°C	18-48 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	>=50%	Yellow	Yellow with red centre	35-37°C	18-48 Hours
<i>Proteus vulgaris</i>	13315	50-100	Good	40-50%	Colourless with bluish zone	Red with bluish zone	35-37°C	18-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good	40-50%	Colourless with bluish zone	Red with bluish zone	35-37°C	18-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	>=50%	Colourless with bluish zone	Red with bluish zone	35-37°C	18-48 Hours
<i>Staphylococcus aureus</i>	25923	>=1000	Inhibited	0%	-	-	35-37°C	18-48 Hours

PACKAGING

In 100 & 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










Product Deterioration: Do not use, if powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

- Mallmann, W. L., and C. W. Darby. Uses of a lauryl sulphate tryptose broth for the detection of coliform organisms. Am J. Public Health. 31:12. (1941).
- Chapman G.H. A single culture medium for selective isolation of plasma coagulating staphylococci and for improved testing of chromogenesis (J. Bacteriol. 51: 409-410). (1946).
- Vanderzant, C., and D. F. Splittstoesser (eds.). Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C. (1992).
- ISO 9308-1. Water quality. Detection and enumeration of *Escherichia coli* and coliform bacteria. PART.1. Membrane filtration method.
- GUILLAUME-Gentil, O., Sonnard, V. Kandahai, M.C., Mauragg, J.D. and Jootsen, H. A simple and Rapid Cultural Method for Detection of *Enterobacter sakazakii* in environmental samples. Journal of Food. Protection, 68 (1), pp. 64-69. (2005).

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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