Lactose TTC Agar with Tergitol

Intended Use
Lactose TTC Agar with Tergitol is recommended as a selective differential medium for the detection and enumeration of *E. coli* and coliform bacteria in water using the membrane filtration method.

Summary
Lactose TTC Agar with Tergitol is recommended as a selective and differential medium for the recovery of injured coliform organisms from chlorinated water by membrane filter technique. McFeters, Cameron and LeChevallier modified Tergitol-7 Agar by addition of more lactose and replaced the peptone with proteose peptone. This improved the selectivity and the differential properties for the recovery of stressed coliforms from chlorinated water. They had reported that selective media such as MEndo Agars used to isolate Gram-negative bacteria recovered only 30% or less as compared to recovery between 71 - 100% of injured coliforms on Tergitol-7 Agar. In their study of surface and drinking water samples, including samples containing laboratory stressed coliforms, M-Tergitol-7 Agar Base recovered 43% more coliforms than on M-Endo Agar and 36% more coliforms than by using M-Endo Agar with a resuscitation technique.

Principle
Peptone and Cara meat extract provide necessary nitrogenous growth factors. Yeast extract is the source of B-vitamins and organic nitrogen and carbon compounds. Lactose is the fermentable carbohydrate. Microorganisms fermenting lactose produce yellow colonies due to acid production and the colour change of the pH indicator bromothymol blue. Sodium heptadecyl sulphate (Tergitol-7) acts as surface active agent which inhibit growth of most Gram-positive bacteria as well as swarming of *Proteus*. 2,3,5-Triphenyl Tetrazolium Chloride (TTC) is a sensitive dehydrogenase indicator. The reduction of TTC to insoluble formazan by lactose-negative bacteria produces dark red colonies. Lactose-positive *E. coli* and coliform bacteria reduce TTC weakly, hence their colonies are yellow-orange.

Formula*

Ingredients	**g/L**
Lactose	20.0
Peptone	10.0
Yeast Extract	6.0
Cara Meat Extract#	5.0
Bromothymol Blue	0.05
Tergitol-7	0.1
Agar	12.7
Final pH (at 25°C)	7.2 ± 0.2

*Adjusted to suit performance parameters.
#Equivalent to Meat Extract

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Water samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 53.85 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Cool the medium at 45°C-50°C and add aseptically 2.5mL of 1% TTC Solution (204200740010).

Quality Control

Dehydrated Appearance: Faintly green coloured, homogenous, free flowing powder.
Prepared Appearance: Light green coloured, clear to slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18 - 48 hours.

Organisms (ATCC)	Growth	Colour of Colony
Escherichia coli (25922)	Good	Light orange
Klebsiella aerogenes (13048)	Good	Brick red
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	Dark red
Shigella flexneri serotype 2b (12022)	Good	Dark red
Enterococcus faecalis (29212)	Complete Inhibition	-
Staphylococcus aureus subsp. *aureus* (25923)	Complete Inhibition	-

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

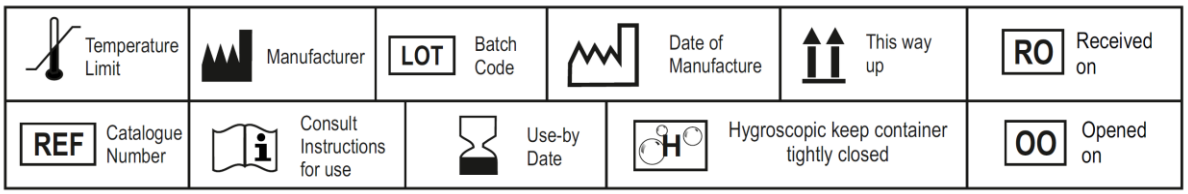
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. G.A. McFeters, M.W. LeChevallier, S.C. Cameron, New medium for improved recovery of coliform bacteria from drinking water, Appl. Environ. Microbiol., 45, 484 (1983)
2. G.A. McFeters, S.C. Cameron, M.W. LeChevallier, Influence of diluents, media, and membrane filters on detection for injured waterborne coliform bacteria, Appl. Environ. Microbiol., 43, 97 (1982)
3. G.A. McFeters, J.S. Kippin, M.W. LeChevallier, Injured coliforms in drinking water, Appl. Environ. Microbiol., 51, 1 (1986)
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201120120100	Dehydrated Culture Media	100 g
201120120500	Dehydrated Culture Media	500 g



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