

Tryptone Bile Salts Agar

Cat. 1013

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

Practical information

Applications	Categories
Selective enumeration	Escherichia coli
Detection	Escherichia coli

Industry: Water

Principles and uses

Tryptone Bile Salts Agar is used in the quick test detection and enumeration of Escherichia coli and others coliforms in foods and waters by the membrane filtration technique.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Bile salts are inhibitors to Gram-positive organisms and suppress coliform bacteria. Bacteriological agar is the solidifying agent.

The fecal presence and level is an important factor in the evaluation of a water mass and the infection risk which it poses to human health. The analysis of water samples to detect E.coli, which usually is found in the intestinal tract of humans and other warm-blooded animals, provides an indication of this type of contamination.

This medium is recommended for the quick test method which is based on the fact that 99% of Escherichia strains produce indole from tryptophan at 44°C when grown by the membrane filtration technique.

Formula in g/L

Bacteriological agar	15	Bile salts	1,5
Tryptone	20		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 36.5 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C, mix well and dispense into plates.

Instructions for use

- Incubate the filtration membrane at 36±2°C during 4-5 hours in Tryptone Soy Agar (Cat. 1138).
- Transfer the filtration membrane to Tryptone Bile Salts Agar and incubate at 44±0.5°C during 19-20 hours.
- If desired, the two agar media can be combined in a petri dish in a double layer. In this case, it is convenient to place the membrane over a recently prepared double-layered plate of TSA (Cat. 1138) and TBA. Incubate at 36±2°C during 4-5 hours, and incubate again at 44 ± 0.5°C during 19-20 hours.
- Carry out the indole test: all indole-positive strains which give red colonies when stained with indole reagent are considered E. coli.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,2 ± 0,1

Microbiological test

Incubation conditions: (44±0,5 °C / 19-20h)

Microorganisms	Specification	Characteristic reaction
Escherichia coli ATCC 25922	Good growth	Red colonies, Indole (+)
Enterococcus faecalis ATCC 29122	Inhibition	

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

International Standard ISO 9308-1 Water quality. Detection and enumeration of Escherichia coli and coliform bacteria. Part 1 Membrane filtration method
Sahidi S.A. and Ferguson A.R. (1971) Appl. Microbiol.,21 500-506. Harmon S.M., Kauttar D.A. and Peeler J.T.(1 971) Appl. Microbiol. 21. 922-927.
Hauschild A.H.W and Hilsheimer R. (1973) Appl. Microbiol.27. 78-82.