M-EI Chromogenic Agar Base

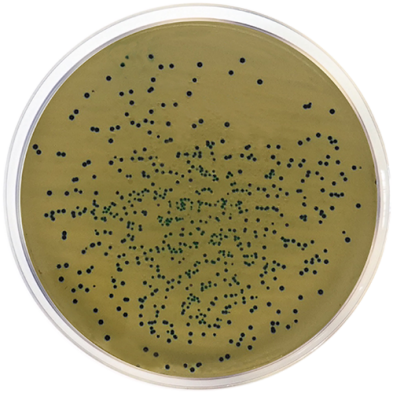
Cat. 1412

For the detection and enumeration of Enterococcus in water through the single step membrane filtration technique

Practical information

Aplications	Categories
Selective enumeration	Enterococci
Detection	Enterococci

Industry: Water



Principles and uses

m-EI Chromogenic Agar Base is recommended for the detection and enumeration of enterococci in water by the membrane filter technique.

The medium was developed as a single-step procedure that does not require the transfer of the membrane filter to another substrate. Observation of blue color colonies confirms the presence of enterococci.

A wide range of sample volumes or dilutions can be tested by this single-step membrane filtration procedure for the detection and enumeration of enterococci in potable, fresh, estuarine, marine and shellfish-growing waters.

Peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract provides trace elements, vitamins and amino acids. Esculin is hydrolyzed by enterococci to form esculetin and dextrose. Cycloheximide inhibits most fungi, and the sodium azide inhibits Gram negative bacteria. X-Glucoside is the substrate of the glucosidase-positive enterococci and the agar is added into the medium as a solidifying agent.

Formula in g/L

Bacteriological agar	15	Cycloheximide	0,05
Esculin	1	Peptone	10
Sodium azide	0,15	Sodium chloride	15
Yeast extract	30	X-Glucoside	0,75

Preparation

Suspend 71,95 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 121ºC for 15 minutes. Cool to 50ºC, mix well and dispense into plates. For a more selective medium, prepare a solution of 0.24 grams of nalidixic acid in 5 ml of sterile distilled water with a few drops of sodium hydroxide 0.1N (for a better dissolution), and aseptically add to one liter of medium. If desired, 15 ml per liter of a 1% TTC solution can be added.

Instructions for use

Inoculate and incubate to 41±0,5 °C and observe alter 18-24 hours. Enterococcus species will growth as blue colonies. If TTc is added, then the colonies will grow red.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

Sin restos	Polvo fino	Beige	Amber, slightly opalescent	7,1 ± 0,2

Microbiological test

Incubation conditions: (41±0,5 ºC / 18-24 h)

Microrganisms	Specification	Characteristic reaction
Enterococcus faecalis ATCC 19433	Good growth	Blue colonies
Escherichia coli ATCC 25922	Total inhibition	
Enterococcus faecium ATCC 6057	Good growth	Blue colonies

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Levin, Fischer and Cabelli. 1975. Appl. Microbiol. 30.66.
U.S. Environmental Protection Agency. 2002. Method 1600: Enterococci in water by membrane filtration using membrane enterococcus indoxyl –D-glucoside agar (mEI]. Publication EPA-821- R-02-022. USEPA Office of Water, Office of Science and Technology, USEPA, Washington, DC.