m-EI Chromogenic Agar Base, Modified

Cat. 2050

For the isolation and differentiation of Enterococcus faecalis and E. faecium.

Practical information

Aplications	Categories
Selective isolation	Enterococci
Differentiation	Enterococci

Industry: Clinical

Principles and uses

m-EI Chromogenic Agar Base, Modified is recommended for the isolation and differentiation of Enterococcus faecium and Enterococcus faecalis.

This medium is a modification of the m-EI cromogenic Agar base, where another chromogenic substrate is added. This addition allows the differentiation of Enterococcus faecium and Enterococcus faecalis.

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. Chromogenic Mix is added to differentiate Enterococcus faecium from Enterococcus faecalis. Bacteriological agar is the solidifying agent.

Formula in g/L

Bacteriological agar	15	Chromogenic mixture	0,2
Cycloheximide	0,05	Esculin	1
Peptone	10	Sodium azide	0,15
Sodium chloride	15	Yeast extract	30

Preparation

Suspend 71,48 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 ºC for 15 minutes. Cool to 50 ºC, 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.

Caution: This medium contains sodium azide and cycloheximide and it is very toxic if swallowed, inhaled or comes into contact with skin. Wear gloves and eye face protection.

Instructions for use

Inoculate and incubate to 41±0,5 °C and observe alter 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
Sin restos	Fine powder	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	Greenish blue colonies
Enterococcus faecium ATCC 19434	Good growth	Intense blue colonies
Escherichia coli ATCC 25922	Total inhibition	
Enterococcus faecalis ATCC 29212	Good growth	Greenish blue colonies
Enterococcus faecium ATCC 6057	Goog growth	Intense blue colonies

Storage

Temp. Min.:2 ºC
Temp. Max.:8 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.