

Esculin Iron Agar

Cat. 1574

For the confirmation of Enterococcus in water by membrane filtration technique based on the esculin hydrolysis.

Practical information

Applications	Categories
Confirmation	Enterococci

Industry: Water

Principles and uses

Esculin Iron Agar is a medium for the confirmation of enterococcal colonies on membrane filters through which water samples have been filtered and which have been incubated on an appropriate medium for enterococcus. The membrane is transferred to the Esculin Iron Agar and incubated at 41 °C during 20 minutes.

The colonies turn into a black color due to the esculin hydrolyzation to esculetin, which reacts with iron ions producing a blackening of the medium. Bacteriological agar is the solidifying agent.

Formula in g/L

Bacteriological agar	15	Esculin	1
Ferric ammonium citrate	0,5		

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

Preparation

Suspend 16,5 grams of 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

- Filter a measured volume of water through a membrane filter.
- Place the membrane on a plate of medium which allow the growth of enterococcus. (Cat.1068 TSA, Cat.1109 Slanetz-Bartley Medium).
- Incubate at 37 °C for 24-48 hours.
- Transfer the membrane previously incubated, without inverting the membrane, to a plate with Esculin Iron Agar (Cat. 1574).
- Incubate at 41 °C for 20 min.
- Read the plate immediately.

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	7,4±0,2

Microbiological test

Incubation conditions: Confirmation(41±0,5 °C / 20 min).

Inoculation conditions: Membrane previously incubated.

Microorganisms	Specification	Characteristic reaction
Enterococcus faecium ATCC 19434	Good growth	Black colonies
Enterococcus faecalis ATCC 29212	Good growth	Black colonies

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Clesceri, Greenberg and Eaton (ed.). 1998. Standard methods for the examination of water and wastewater, 20th ed. American Public Health Association, Washington, D.C.
Slanetz and Bartley. 1957. J. Bacteriol. 74:591.