

TM 102 – ESCULIN IRON AGAR

INTENDED USE

For cultivation and identification of Enterococci based on their ability to hydrolyze esculin.

PRODUCT SUMMARY AND EXPLANATION

Enterococci are indicators of the sanitary quality of recreational waters, since they occur in faeces of humans and warm-blooded animals. Detection and quantitation of Enterococci is necessary because gastroenteritis is associated with swimming in recreational water, which is dependant of enterococcal densities.

Esculin Iron Agar is used in conjunction with M-Enterococcus Agar, Modified, for verification of enterococcal colonies in fresh and marine recreational water, as recommended by APH. Esculin in the medium is hydrolyzed by Enterococci to form esculetin and dextrose. Esculetin reacts with the iron salt (ferric ammonium citrate) and produces a dark brown to black complex, which appears around the colonies.

COMPOSITION

Ingredients	Gms / Ltr
Esculin	1.000
Ferric ammonium citrate	0.500
Agar	15.000

PRINCIPLE

The medium consists of Esculin and Ferric ammonium citrate that forms dark brown to black complex, imparting dark brown colour to the medium. Agar act as a solidifying medium.

INSTRUCTION FOR USE

- Dissolve 16.5 grams in 1000 ml purified / distilled water.
- Heat to boiling with frequent stirring. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and pour into sterile Petri plates to a depth of 4-5 mm.

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light yellow to light brown homogeneous free flowing powder.
- Appearance of prepared medium** : Medium amber coloured, clear to slightly opalescent gel forms in petri plates.
- pH (at 25°C)** : 7.1 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation at 40-42°C for 18-24 Hours on M-Enterococcus Agar, Modified and after 20 minutes at 40-42°C on Esculin Iron Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of Colony	Esculin hydrolysis

<i>Enterococcus faecalis</i>	29212	50-100	Good-luxuriant	>=50%	Pink to red	positive reaction, brown to black precipitate around colonies
<i>Escherichia coli</i>	25922	50-100	None-poor	0-10%	-	Negative reaction

PACKAGING:

In pack size of 100 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Cabelli et al, 1979, Am. J. Public Health, 69:690.
2. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., American Public Health Association, Washington, D.C
3. U. S. Environmental Protection Agency, 1997, EPA Method 1600: Membrane Filter Test Method for Enterococci in Water, EPA-821-R-97-004, Washington, D.C.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
Revision: 08 Nov., 2019