06105 Bile Esculin Azide Agar (Enterococcus Selective Agar)

Bile Esculin Azide Agar is a selective medium used for isolation and presumptive identification of faecal Streptococci

Composition:

Ingredients	Grams/Litre
Casein enzymic hydrolysate	17.0
Proteose peptone	3.0
Beef extract	5.0
Oxgall	10.0
Sodium chloride	5.0
Esculin	1.0
Ferric ammonium citrate	0.5
Sodium azide	0.15
Agar	15.0
Final pH 7.1 +/- 0.2 (at 25 °C)	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: faintly beige coloured, homogeneous, free flowing powder.
Colour and Clarity: light brownish-yellow, clear to slightly opalescent gel with a bluish tinge forms in petri plates.

Directions:
Suspend 56.65g in 1 l distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:
Bile Esculin Agar was developed by Swan (1) and evaluated by Facklam and Moody (2). Bile Esculin Azide Agar is a modification of Bile Esculin Agar developed by Isenberg and recommended as a selective and highly nutritive medium for Streptococci.
The medium contains Casein enzymic hydrolysate, Proteose peptone and Beef extract which supply the essential nutrients for Streptoococci like e.g. amino acids, other nitrogenous and carbonaceous compounds. Sodium chloride maintains the osmotic equilibrium of the medium. The most gram negative anaerobes are inhibited by oxgall and sodium azide. Enterococci and Streptococci poses the ability to hydrolyse esculin to esculetin and dextrose, which reacts with ferric citrate producing a brownish black precipitate around the colonies. Originally Bile Esculine Test is was used for identification of Enterococci (3). Agar is the solidifying agents.

Cultural characteristics after 18-24hours at 35-37°C.

Organisms (ATCC)	Growth	Esculin Hydrolysis*
Escherichia coIi (25922)	-	-
Enterococcus faecalis (29212)	+++	+
Staphylococcus aureus (25923)	++	-

* Key: + = black coloration
- = no change

References:
1. A. Swan, The use of a bile-aesculin medium and of Maxted's technique of Lancefield grouping in the identification of enterococci (group D streptococci), J. Clin. Pathol., 7, 160–163 (1954)
2. R.R. Facklam, M.D. Moody, Presumptive identification of group D streptococci: the bile-esculin test, Appl. Microbiol., 20, 245–250 (1970)
3. J.F. MacFaddin, Media for Isolation-Cultivation-Identification-Maintainance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore (1985)
4. International Organisation for Standardisation (ISO), Water quality - Detection and enumeration of intestinal enterococci, Draft, ISO/DIS 7899 (1984)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.