BILE ESCULIN AZIDE AGAR TM 038

For selective isolation & presumptive identification of faecal *Streptococci* species

Composition

Ingredients	Gms/Ltr.
Casein enzymatic hydrolysate	17.00
Agar	15.00
Ox gall	10.00
Beef extract	5.00
Sodium chloride	5.00
Proteose peptone	3.00
Esculin	1.00
Ferric ammonium citrate	0.50
Sodium azide	0.15

* Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C & protect from direct Sunlight.

Instructions for Use

Dissolve 56.65gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. Cool at 45- 50°C and pour into sterile Petri plates.

Appearance: Light to medium amber colour, clear to slightly opalescent gel
pH (at 25°C): 7.1 ± 0.2

Principle

BILE ESCULIN AZIDE AGAR is used as a selective and highly nutritive medium for *Streptococci* species. The medium contains Casein enzymatic hydrolysate; Proteose peptone and Beef extract are the sole source of essential nutrients like e.g. amino acids, other nitrogenous and carbonaceous compounds for *Streptoococci* sp. Sodium chloride maintains the osmotic equilibrium of the medium. Ox gall is used to inhibit the gram positive bacteria, while Sodium azide inhibits gram negative bacteria. The medium is more selective but still provides rapid growth and efficient recovery of enterococci. The ability to hydrolyze the Esculin of *Enterococci* & *Streptococci* species. Esculetin reacts with the ferric ammonium citrate producing a brownish black precipitate around the colonies. Agar is the solidifying agent.

Interpretation

Cultural characteristics observed after inoculating (10^3 CFU/ml), on incubation at 35-37°C for 18 – 24 hour.

Microorganisms	ATCC	Inoculum (CFU/ml)	Recovery rate	Hydrolysis	Appearance of colony
Escherichia coli	25922	10^3	Inhibited	-	-
Enterococcus faecalis	29212	10^3	Good	+	Blackening around the colony
Streptococcus pyogenes	19615	10^3	Partial to complete inhibition	-	Colourless colony

References

1. J.F. MacFaddin, Media for Isolation-Cultivation-Identification-Maintainance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore. (1985).
2. International Organisation for Standardisation (ISO), Water quality - Detection and enumeration of intestinal enterococci, Draft, ISO/DIS 7899. (1984).
3. R.R. Facklam, M.D. Moody, Presumptive identification of group D streptococci: the bile-esculin test, Appl. Microbiol., 20, 245–250. (1970).
4. 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).