Technical Information

Esculin Azide MiVeg Broth

Product Code : VM1749

Application:- Esculin Azide MiVeg Broth is used for selective cultivation and identification of *Streptococci.*

Composition

Ingredients	Gms / Litre
MiVeg peptone	25.0
Yeast extract	5.0
Synthetic detergent	5.0
Sodium citrate	1.0
Esculin	1.0
Ferric ammonium citrate	0.5
Sodium azide	0.25
Final pH (at 25°C)	7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Esculin Azide MiVeg Broth is prepared by adding MiVeg peptone and Synthetic detergent, which make the medium free of BSE/ TSE risks. Rochaix (1) noted the importance of esculin hydrolysis in the identification of *Enterococci*. Isenberg et al modified this medium by adding Sodium azide. Esculin Azide MiVeg Broth is the modification of the medium prepared by Isenberg (2). Synthetic detergent and Sodium Azide in the medium imparts selectivity to the broth and also helps in rapid growth of streptococci.

MiVeg peptone and Yeast extract provide nitrogenous nutrients to the organisms. Synthetic detergent inhibit other gram-positive bacteria while Sodium azide inhibits gram-negative bacteria. *Streptococci* hydrolyze esculin to esculetin and dextrose. Esculetin and Ferric ammonium citrate forms dark brown to black complex thus imparting dark brown colour to the broth.

Methodology

Suspend 37.8 grams of powder media in 1000ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Warning: Sodium Azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Amber coloured, clear solution having purplish tinge.

Reaction

Reaction of 3.78% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C

pH Range

7.0-7.4

**Cultural Response/Characteristics**

Cultural characteristics observed after an incubation at 35-37°C for 18 - 24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Esculin Hydrolysis
Enterococcus faecalis (29212)	10^2-10^3	good to luxuriant	+
Escherichia coli (25922)	10^2-10^3	inhibited	–
Streptococcus bovis (27960)	10^2-10^3	good to luxuriant	+
Streptococcus pyogenes (19615)	10^2-10^3	Poor to good	–

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8^0 in sealable plastic bags for 2 – 5 day.
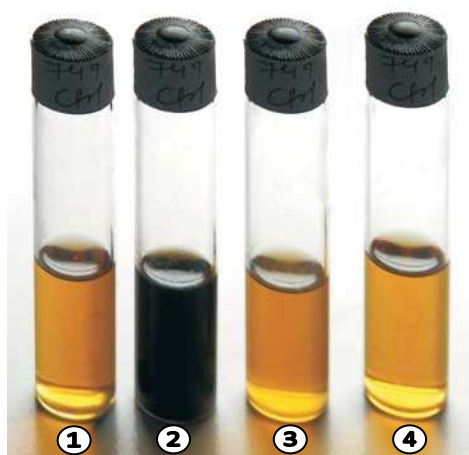
VM1749 Esculin Azide M i Veg Broth
1. Control
2. *Enterococcus faecalis*
3. *Streptococcus pyogenes*
4. *Escherichia coli*

Further Reading

1. Rochaix 1924, C.R. Soc. Biol 90:771.
2. Isenberg, 1970, Clin. Lab. Forum.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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