

Esculin Azide HiVeg™ Broth

MV749

Esculin Azide HiVeg Broth is used for selective cultivation and identification of *Streptococci*.

Composition ** :

Ingredients	Grams/Litre
HiVeg 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.

Directions :

Suspend 37.8 grams in 1000 ml distilled water. 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.

Principle and Interpretation :

This medium is prepared by using HiVeg 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 HiVeg Broth is the modification of the medium prepared by Isenberg (2). The broth is selective due to presence of synthetic detergent and sodium azide and provides rapid growth of *Streptococci*.

HiVeg 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 esculentin and dextrose. Esculetin and Ferric ammonium citrate forms dark brown to black complex, imparting dark brown colour to the broth.

Quality Control :**Appearance of powder**

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

Colour and Clarity

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.

Product Profile :

Vegetable based (Code MV)©	Animal based (Code M)
MV749 HiVeg peptone Synthetic detergent	M749 Peptic digest of animal tissue Bile salts

Recommended for : Selective cultivation and identification of *Streptococci*.

Reconstitution : 37.8 g/l

Quantity on preparation (500g) : 13.22 L

pH (25°C) : 7.2 ± 0.2

Supplement : None

Sterilization : 121°C / 15 minutes.

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Cultural Response

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Esculin Hydrolysis
<i>Enterococcus faecalis</i> (29212)	10 ² -10 ³	good to luxuriant	+
<i>Escherichia coli</i> (25922)	10 ² -10 ³	inhibited	-
<i>Streptococcus bovis</i> (27960)	10 ² -10 ³	good to luxuriant	+
<i>Streptococcus pyogenes</i> (19615)	10 ² -10 ³	poor to good	-

References :

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



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1. Control
2. *Enterococcus faecalis*
3. *Streptococcus pyogenes*
4. *Escherichia coli*