L.D. Esculin HiVeg™ Agar MV743

L.D. Esculin HiVeg Agar is used for identification of anaerobic bacteria especially *Bacteroides* species on the basis of esculin hydrolysis.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	5.00
Yeast extract	5.00
Sodium chloride	2.50
L-Tryptophan	0.20
Vitamin K1	0.01
L-Cystine	0.40
Ferric pyrophosphate	0.01
Esculin	1.00
Ferric citrate	0.50
Agar	20.0

Final pH (at 25°C) 7.4 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 34.62 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation :

L.D. Esculin HiVeg Agar is prepared by using HiVeg hydrolysate and Ferric pyrophosphate instead of Casein enzymic hydrolysate and Hemin respectively making the medium free from BSE/TSE risks. L.D. Esculin HiVeg Agar is the modification of L.D. (Lombard-Dowell) Esculin Agar developed by Lombard-Dowell (1) for identification of anaerobes especially *Bacteroides* species on the basis of esculin hydrolysis test.
HiVeg hydrolysate and yeast extract provide the nitrogenous nutrients to the organisms. L-Tryptophan and L-Cysteine serve as the amino acid source. Esculin is hydrolyzed by the organisms to form esculetin and dextrose. Esculetin reacts with the iron salt of ferric citrate to produce a dark brown to black complex. Also L-Cysteine is the sulphur containing amino acid and hence H_2S production which in combination with ferric citrate gives black colouration to the colonies. Vitamin K1 and ferric pyrophosphate are the additional growth factors. Black colour of H_2S positive colonies is rapidly lost after exposure to air, hence observe the plates in anaerobic glove box or immediately upon air exposure (2).

Quality Control :

Appearance of powder
Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.
Gelling
Firm, comparable with 2.0% Agar gel.
Colour and Clarity
Yellow coloured, clear to slightly opalescent gel forms in petriplates.
Reaction
Reaction of 3.46% w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV743 HiVeg hydrolysate Ferric pyrophosphate	**M743** Casein enzymic hydrolysate Hemin

Recommended for	:	Identification of anaerobic bacteria especially *Bacteroides* species on the basis of esculin hydrolysis.
Reconstitution	:	34.62 g/l
Quantity on preparation (500g)	:	14.44 L
(100g)	:	2.88 L
pH (25°C)	:	7.4 ± 0.2
Supplement	:	None
Sterilization	:	121°C / 15 minutes.

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

Cultural Response

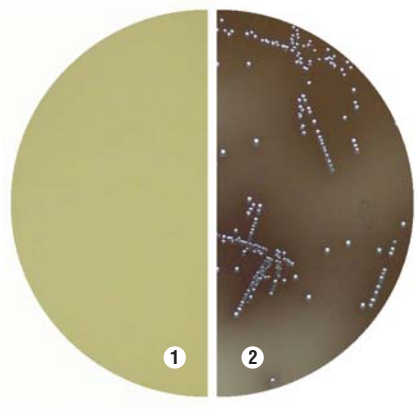
Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours, under anaerobic condition.

Organisms (ATCC)	Inoculum (CFU)	Growth	Esculin hydrolysis	H_2S produciton	Catalase
Bacteroides asaccharolyticus	10^2-10^3	luxuriant	-	-	-
Bacteroides fragilis (25285)	10^2-10^3	luxuriant	+	-	+
Fusobacterium mortiferum	10^2-10^3	luxuriant	+	+	-

Key : Esculin hydrolysis + = brown-black precipitate around colonies.
H_2S production + = blackening of colonies.

References :

1. Dowell V., and Lombard G., 1977, U.S. DHEW, Centre for Disease Control (CDC), Atlanta.
2. MacFaddin J.F., 1985 (ed), Media For Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1st, Williams and Wilkins, Baltimore.



MV743 L. D. Esculin HiVeg Agar
1. Control
2. *Bacteroides fragilis*

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.

HIMEDIA®