

MUG MacConkey HiVeg™ Agar**MV1080**

MUG MacConkey HiVeg Agar is used for the selective isolation and detection of lactose fermenting coliform organisms by a fluorogenic procedure

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	20.0
Lactose	10.0
Synthetic detergent No. I	1.5
Sodium chloride	5.0
Neutral red	0.03
Crystal violet	0.001
4-Methylumbelliferyl β -D-Glucuronide (MUG)	0.1
Agar	15.0

Final pH (at 25°C) 7.1 \pm 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 51.63 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. Mix well before pouring.

Principle and Interpretation :

MUG MacConkey HiVeg Agar is developed by using HiVeg peptone in place of animal based peptone making the medium free from BSE/TSE risks associated with animal based peptones. MUG MacConkey HiVeg Agar is based on the modification of MacConkey Medium suggested by Trepeta and Edberg (1), used for the selective isolation and detection of lactose fermenting coliform organisms by a fluorogenic procedure. MUG MacConkey HiVeg Agar helps to detect the presence of an enzyme β -glucuronidase and thereby rapidly identifying *Escherichia coli* in mixed clinical specimens (2).

HiVeg peptone provide essential nitrogen compounds for the growth of coliforms. Lactose is the fermentable carbohydrates source. Synthetic detergent No. I and crystal violet inhibit the growth of gram-positive bacteria.

Neutral red is the pH indicator. MUG is cleaved by the enzyme glucuronidase to release an end product 4-methylumbelliferone which produces a visible greenish-blue fluorescence under long wave ultra-violet light (366 nm).

Product Profile :

Vegetable based (Code MV)©	Animal based (Code M)
MV1080 HiVeg peptone Synthetic detergent No. I	M1080 Peptic digest of animal tissue Bile salts mixture

Recommended for : Selective isolation and detection of lactose fermenting coliform organisms by a fluorogenic procedure.

Reconstitution : 51.63 g/l

Quantity on preparation (500g) : 9.68 L

pH (25°C) : 7.1 \pm 0.2

Supplement : None

Sterilization : 121°C / 15 minutes.

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

Quality Control :**Appearance of powder**

Pinkish yellow coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity

Red with purplish tinge, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 5.16% w/v aqueous solution is pH 7.1 \pm 0.2 at 25°C.

Cultural Response

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Fluorescence*
<i>Enterobacter aerogenes</i> (13048)	10 ² -10 ³	luxuriant	>50%	-
<i>Escherichia coli</i> (25922)	10 ² -10 ³	luxuriant	>50%	+

Key : * = Fluorescence at 366 nm.

References :

- Trepeta R.W. and Edberg S.C., 1984, J. Clin. Microbiol., 19(2):172.
- MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification Maintenance of Medical Bacteria, Vol.I, Williams and Wilkins, Baltimore.