Technical Information

MUG MacConkey MiVeg Agar

Product Code : VM2080

Application:- MUG MacConkey MiVeg Agar is used for the selective isolation and detection of lactose fermenting coliform organisms by a fluorogenic procedure.

Composition

Ingredients	Gms / Litre
MiVeg 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±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

MUG MacConkey MiVeg Agar is prepared by using MiVeg peptone instead of animal based peptone thus the medium becomes free from BSE/TSE risks. This medium is based on the modification of MacConkey Medium recommended by Trepeta and Edberg (1), used for the selective isolation and detection of lactose fermenting coliform organisms by a fluorogenic procedure. It helps to detect the presence of an enzyme β-glucuronidase thereby rapidly identifying *Escherichia coli* in mixed clinical specimens (2).

MiVeg peptone present in the medium supplies essential nitrogen compounds for the growth of coliforms. Lactose serve as the fermentable carbohydrates source. This medium contains Synthetic detergent No. I and crystal violet which inhibits the growth of gram-positive bacteria.

Neutral red act as the pH indicator. *Escherichia coli* possesses an enzyme glucuronidase which cleaves MUG to release an end product 4-methylumbelliferone resulting a visible greenish- blue fluorescence under long wave ultra-violet light(366 nm).

Methodology

Suspend 51.63 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well before pouring.

Quality Control

Physical Appearance

Pinkish yellow coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

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

Reaction

Reaction of 5.16 % w/v aqueous solution pH: 7.1 ±0.2 at 25°C

pH range

6.9-7.3

Cultural Response/Characteristics

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

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

Key : * = fluorescence at 366 nm

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 days.

Further Reading

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

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for in fingement of any patents.Do not use the products if it fails to meet specificatons for identity and performens parameters.