TM 1029 - MUG MacCONKEY AGAR

INTENDED USE

For selective isolation and detection of lactose fermenting coliform organisms by fluorogenic method.

PRODUCT SUMMARY AND EXPLANATION

MacConkey Agar is employed for the cultivation of enteric bacteria and in differentiation of lactose fermenters and non-fermenters. The medium contains bile salts to inhibit non-intestinal bacteria and lactose with neutral red indicator to distinguish the lactose-fermenting coliforms from the lactose-non-fermenting *Salmonella* and dysentery groups. MUG MacConkey Agar is based on the modification of MacConkey medium as per Trepeta and Edberg. It is used for the selective isolation and detection of lactose fermenting coliform organisms by a fluorogenic procedure. MUG MacConkey Agar helps to detect the presence of an enzyme ß-glucuronidase and thereby rapidly identifying *Escherichia coli* in mixed clinical specimens.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	20.000
Lactose	10.000
Bile salts mixture	1.500
Sodium chloride	5.000
Neutral red	0.030
Crystal violet	0.001
4-Methylumbelliferyl ß-D-glucuronide (MUG)	0.100
Agar	15.000

PRINCIPLE

Peptone provides essential nitrogen compounds for the growth of coliforms. Lactose is the fermentable carbohydrates source. Bile salts and crystal violet inhibit the growth of gram-positive bacteria. Neutral red is the pH indicator. MUG is cleaved by the enzyme ß-glucuronidase to release an end product 4-methylumbelliferone which produces a visible greenish- blue fluorescence under long wave ultra-violet light (366nm). The medium can be directly inoculated with the test specimen by streaking.

INSTRUCTION FOR USE

- Dissolve 51.63 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium : Red with purple tinge clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.1±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Fluorescence Under UV	Incubation Temperature	Incubation Period
Klebsiella aerogenes	13048	50-100	Luxuriant	>=70 %	Negative	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	>=70 %	Positive	35-37°C	18-24 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
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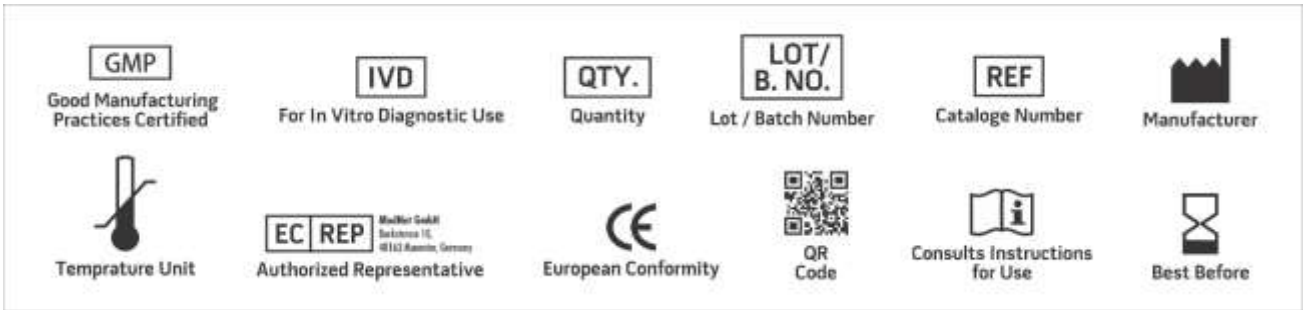

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 08 Nov., 2019