M-MacConkey Broth

Intended Use
M-MacConkey Broth is recommended for detection of lactose fermenting and non-fermenting enteric bacteria using membrane filter technique.

Summary
MacConkey broth is used as a differential medium for detection and enumeration of coliforms from wide variety of clinical samples, food, water etc. The selective action of this medium is due to the bile salts, which are inhibitory to most species of Gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Lactose fermenters produces acid from lactose which can be identified by colour change of the medium specific to the indicator used. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* do not alter the appearance of the medium. Due the presence of bromocresol purple in the medium, *Escherichia coli* changes the colour of the medium to yellow due to lactose fermentation and colourless to slight pink in case of lactose non-fermenters.
M-MacConkey Broth is recommended for the detection and enumeration of lactose fermenting enteric bacteria from milk and water using membrane filter technique. First a sterile absorbent cotton - pads is saturated with M-MacConkey Broth and then the membrane filter is aseptically placed on the saturated sterile absorbent cotton pads.

Principle
Peptic digest of animal tissue provides necessary nitrogen source. Lactose serves as fermentable carbohydrate source. Sodium chloride maintains osmotic balance of the cells. The selective action of this medium is attributed to bile salts, which are inhibitory to most species of Gram-positive bacteria.

Formula*
Ingredients	**g/L**
Peptic Digest of Animal Tissue	10.0
Bile Salts	4.0
Sodium Chloride	5.0
Lactose	30.0
Bromocresol Purple	0.12
Final pH (at 25°C)	7.4 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Clinical samples; Food samples; Water samples

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 49.12 g of the powder in 1000 mL purified / distilled water.
2. Heat if necessary, to dissolve the powder completely. Distribute into tubes.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Light yellow to beige coloured, homogeneous, free flowing powder.
Prepared Appearance: Purple coloured, clear solution without any precipitate.
Cultural Response: Cultural characteristics observed after an incubation at 35°C-37°C for 18-24 hours.

Organism (ATCC)	Growth	Colour of Colony (on membrane filter)
Escherichia coli (25922)	Good	Yellow
Klebsiella aerogenes (13048)	Good	Yellow
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	Colourless to slightly pink
Staphylococcus aureus subsp. *aureus* (25923)	Inhibited	-

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. MacConkey, 1900, The Lancet, ii: 20.
2. MacConkey, 1905, J. Hyg., 5:333.
3. Harrigan W.F. and McCance M.E. (Eds), 1976, Laboratory Methods in Food and Dairy Microbiology, Academic press, Landon.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130070500	Dehydrated Culture Media	500 g