OXALIS Diagnostics Pvt. Ltd.

Technical Data

MacConkey Agar Plate (90mm)
Used for the detection of coliforms and other enteric pathogens.

Product Presentation:

Cat No.	Product description	Pack Size
31010020060	MacConkey Agar Plates	60 Plates

Principle

MacConkey agars are slightly selective and differential plating media mainly used for the detection and isolation of Gram-negative organisms from clinical, dairy, food, water, pharmaceutical and industrial sources. It is also recommended for the selection and recovery of the *Enterobacteriaceae* and related enteric Gram-negative bacilli. USP recommends this medium for use in the performance of Microbial Limit Tests. The original medium contains protein, bile salts, sodium chloride and two dyes. The selective action of this medium is attributed to crystal violet and 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-fermenting strains grow as red or pink colonies and may be surrounded by a zone of acid precipitated bile.
The red colour is due to production of acid from lactose, absorption of neutral red and a subsequent colour change of the dye when the pH of medium falls below 6.8. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* are colourless, transparent and typically do not alter appearance of the medium.
Peptone, Proteose Peptone are sources of nitrogen, carbon, long chain amino acids and other nutrients. Lactose is a fermentable carbohydrate. Sodium chloride maintains the osmotic equilibrium. Bile salts and crystal violet are selective agents that inhibit growth of Gram-positive organisms. Neutral red is the pH indicator dye.

Composition

Ingredients	Grams / Litre
Peptone	17.00
Proteose Peptone	03.00
Lactose	10.00
Bile Salts	1.50
Sodium Chloride	05.00
Neutral Red	0.030
Crystal Violet	0.001
Agar	13.50

*Formula adjusted, standardized to suit performance parameters

Additional Material Required
Bacteriology Incubator.

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Directions

- ✓ Open the sterile pack and remove MacConkey Agar Plate aseptically.
- ✓ Inoculate/streak the plate and Incubate in inverted position as per standard procedure.

Storage and Stability

- ✓ Store between 15°C-25°C to avoid water condensation. Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.
- ✓ Under optimal conditions, the medium has a shelf life of 3 months. Use before expiry mentioned on the label.

Quality Control

Appearance: Gel with smooth, even surface without any cracks, bubbles and drying or shrinking of media.
Colour and Clarity of Medium: Orange Red coloured, slightly opalescent gel forms in petridishes.
Quantity of Medium: 25 ± 2 g media in 90 mm petriplate.
pH at 25°C±2°C: 7.1±0.2

Cultural Response:

Cultural characteristics observed with added 1% lactose, after an incubation at 30-35°C for 18-24 hours.

Organism	Type Culture	Growth	Colour of Colony	Incubation Temperature	Incubation Period
Escherichia coli	ATCC 25922	Good	Pink with bile precipitate	30°C -35°C	18 Hours

Inhibitory :

Organism	Type Culture	Growth	Incubation Temperature	Incubation Period
Staphylococcus aureus	ATCC 25923	Inhibited	30°C -35°C	48 Hours

Disposal

Disposal of infectious material and material that comes in to contact with clinical sample must be decontaminated and dispose of by autoclaving or incineration or established laboratory procedures.
User must be ensure safe disposal of used or unusable preperation of the products.

Reference

- ✓ Murray P. R, Baron E, J., Jorgensen J. H., Pfaller M. A., Yolken R. H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
- ✓ Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C

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