# MacConkey Agar without Crystal Violet, NaCl and with 0.15% Bile Salts

## Intended Use
MacConkey Agar is used for the selective isolation and differentiation of lactose fermenting and non-lactose fermenting enteric bacteria.

## Summary
MacConkey Agar is based on the bile salt-neutral red lactose agar of MacConkey. The original MacConkey medium was used to differentiate strains of *Salmonella typhosa* from members of the coliform group. Formula modifications improved growth of *Shigella* and *Salmonella* strains. These modifications include decreased agar content, altered bile salts, and neutral red concentrations. The formula modifications improved differential reactions between enteric pathogens and coliforms. MacConkey Agar without Crystal Violet and Salt is a differential medium that restricts swarming of *Proteus* spp., aiding in the detection and isolation of enteric microorganisms.

## Principle
Peptone serves as a source of carbon, nitrogen, long chain amino acids and other essential growth nutrients. The selective action of this medium is attributed to bile salts, which is inhibitory to most species of Gram-positive bacteria. Sodium chloride is deleted from the medium to provide an electrolyte deficient medium preventing *Proteus* spp. from spreading. In addition, this medium does not contain crystal violet allowing *Staphylococcus*, *Enterococcus* and *Mycobacterium* spp. to grow.

## Formula*

| **Ingredients** | **g/L** |
|---|---|
| Peptone | 20.0 |
| Lactose | 10.0 |
| Bile Salts | 1.5 |
| Neutral Red | 0.075 |
| Agar | 12.0 |
| Final pH (at 25°C) | 7.1 ± 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.

## 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 43.53 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely. AVOID OVERHEATING.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Cool to 45°C-50°C and pour into sterile petridishes.

## Quality Control
**Dehydrated Appearance:** Cream to pinkish beige coloured, homogenous, free flowing powder.
**Prepared Appearance:** Orange red to pinkish red coloured, clear to slightly opalescent gel forms in petridishes.
**Cultural Response:** Cultural characteristics observed after an incubation of 18-24 hours at 30°C-35°C.

| Organism (ATCC) | Growth | Colour of Colony |
|---|---|---|
| *Escherichia coli* (25922) | Good | Pink |
| *Klebsiella aerogenes* (13048) | Good | Pale pink |
| *Salmonella enterica* subsp. *enterica* serovar *Typhimurium* (14028) | Good | Colourless |
| *Proteus mirabilis* (25933) | Good | Colourless |
| *Enterococcus faecalis* (29212) | Good | Pale pink |
| *Staphylococcus aureus* subsp. *aureus* (25923) | Good | Pale pink |
| *Acinetobacter baumannii* (19606) | Good | Pink |

**Note:** The surface of MacConkey Agar should be thoroughly air dried prior to inoculation to rule out the swarming of *Proteus* species.

## 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. Dwnes F. P. and Ito K. (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.


## Product Presentation:

| Cat No. | Product description | Pack Size |
|---|---|---|
| 201130170500 | Dehydrated Culture Media | 500 g |
| 205130920100 | Ready Prepared Plate | (90 mm) 100 Plates |
| 205130920020 | Ready Prepared Plate | (90 mm) 20 Plates |


**Disclaimer**

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.