

## MacConkey Agar without Crystal Violet SKU: 700004543, 700004544, 700004545, 700004546 NCM0160

### Intended Use

MacConkey Agar without Crystal Violet is used for the isolation and differentiation of Gram-negative enteric bacilli and is not intended for use in the diagnosis of disease or other conditions in humans.

### Description

A selective medium for the isolation of bile tolerant organisms from sewage and foodstuffs. Bile-tolerant Gram positive organisms as well as Gram negative organisms will grow on this medium. This formula is recommended by W.H.O. and other bodies for the examination of water and milk. Some strains of *Proteus* spp. will spread on this medium making interpretation difficult, for this reason MacConkey Agar (without salt) may be preferred as it is less prone to this phenomenon.

### Typical Formulation

Peptone	20.0 g/L
Lactose	10.0 g/L
Bile Salts	5.0 g/L
Sodium Chloride	5.0 g/L
Neutral Red	0.05 g/L
Agar	12.0 g/L

pH: 7.4 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

### Precaution

Refer to SDS

### Preparation

1. Suspend 52 grams of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45-50°C.

### Test Procedure

Refer to appropriate references using MacConkey Agar without Crystal Violet for the isolation and identification of enteric organisms.

### Quality Control Specifications

**Dehydrated Appearance:** Powder is homogeneous, free flowing, and beige to pinkish- beige.

**Prepared Appearance:** Prepared medium is trace to slightly hazy and reddish-orange.

**Expected Cultural Response:** Cultural response on MacConkey Agar without Crystal Violet incubated aerobically at 33-38°C and examined for growth after 18 - 24 hours.

# Technical Specification Sheet



Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Growth	Reaction
<i>Enterococcus faecalis</i> ATCC® 29212	50-200	>70%	Pink colonies
<i>Escherichia coli</i> ATCC® 25922	50-200	>70%	Pink colonies
<i>Proteus mirabilis</i> ATCC® 29906	Streak	Growth	Colorless colonies
<i>Salmonella typhimurium</i> ATCC® 14028	>10 <sup>4</sup>	Growth	Colorless colonies
<i>Staphylococcus aureus</i> ATCC® 25923	50-200	>70%	Pink colonies

The organisms listed are the minimum that should be used for quality control testing.

## **Results**

Lactose-fermenting organisms grow as pink to brick-red colonies with or without a zone of precipitated bile. Non-lactose fermenting organisms grow as colorless or clear colonies. Swarming by *Proteus* spp. is reduced.

## **Expiration**

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

## **Limitations of the Procedure**

1. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
2. Although MacConkey Agar without Crystal Violet is a selective medium, it is less inhibitory than MacConkey Agar, allowing Gram-positive organisms to grow. Biochemical and serological testing using pure cultures are recommended for complete identification.
3. Incubation of MacConkey Agar without Crystal Violet under increased CO<sub>2</sub> has been reported to reduce growth and recovery of certain Gram-negative bacilli.

## **Storage**

Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

## **References**

1. Environment Agency: The Microbiology of Drinking Water (2002). Methods for the Examination of Water and Associated Materials.
2. World Health Organization (1971). International Standards for Drinking Water. 3<sup>rd</sup> ed. W.H.O., Geneva.
3. Taylor, E.W. (1958). The Examination of Water and Water Supplies. 7<sup>th</sup> ed. Churchill, London.
4. Cruikshank, R. (1973). A Guide to the Laboratory Diagnosis and Control of Infection. Medical Microbiology. 12<sup>th</sup> ed. Churchill.



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