

## 70143 Mac Conkey Agar No 1

A differential plating medium recommended for the detection and isolation of coliforms and intestinal pathogens from stool, urine, water and other material.

### Composition:

Ingredients	Grams/Litre
Peptone	20.0
Lactose	10.0
Bile salts	5.0
Sodium chloride	5.0
Neutral red	0.075
Agar	12.0

Final pH 7.4 +/- 0.2 at 25°C

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

### Directions:

Suspend 52 g in 1 litre of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Pour into sterile petri plates. Dry the surface of the gel before inoculation.

### Principle and Interpretation:

Peptone provides carbon, nitrogen, vitamins and other essential growth nutrients. Lactose is the fermentable sugar which causes acid production and a color change of the indicator, neutral red, to red. Lactose-positive bacteria like *E. coli* build pink to red colonies and are often surrounded by a turbid zone due to the precipitation of bile acids. Most of the gram positive organisms are inhibited by bile salts. Sodium chloride maintains the osmotic equilibrium.

Cultural characteristics after 18-24 hours at 35-37°C .

Organisms (ATCC)	Growth	Color of colony	Precipitate
<i>Escherichia coli</i> (25922)	+++	pink to red	+
<i>Enterobacter aerogenes</i> (13048)	+++	pink to red	-
<i>Salmonella typhi</i> (6539)	+++	colorless	-
<i>Salmonella enteritidis</i> (13076)	+++	colorless	-
<i>Salmonella paratyphi A</i>	+++	colorless	-
<i>Salmonella paratyphi B</i>	+++	colorless	-
<i>Shigella flexneri</i> (12022)	+++	colorless	-
<i>Proteus vulgaris</i> (13315)	+++	colorless	-
<i>Staphylococcus aureus</i> (25923)	+	pale pink to red	-
<i>Enterococcus faecalis</i> (29212)	+	pale pink to red	-



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## References:

1. Greenberg A.E., Trussell R.R., Clesceri L.S. (Eds.), Standard Methods for the Examination of Water and Wastewater, 16th ed., A.P.H.A, Washington, D.C. (1985)
2. A. MacConkey, J. Hyg. 8, 333 (1905)
3. European Pharmacopeia II, Chapter VIII, 10
4. A. MacConkey, Bile salt media and their advantages in some bacteriological examinations, J. Hyg., 8; 322 (1908)
5. J. MacFaddin, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore (1985)
6. A. MacConkey, Bile salt broth, Thompson Yates Lab. Rep., VI/1, 151 (1901)

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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