

51405 Mac Conkey-Agar (without salt)

A differential medium which restrict the swarming of most *Proteus* species. Useful for culturing urine specimens which may contain large number of *Proteus* species.

Composition:

Ingredients	Grams/Litre
Peptone	20.0
Lactose	10.0
Bile salts	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 47 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:

Mac Conkey-Agar (without salt) is used for isolation of *Proteus* species, *Salmonella*, *Shigella* and coliform bacteria, in particular *Escherichia coli*, from various materials. Peptone provides nitrogen and other essential growth nutrients. Most gram positive organisms are inhibited by bile salts. This medium does not contain sodium chloride and therefore provides a "low electrolyte medium" on which most *Proteus* species do not spread. Due to this ability it is preferably used for the examination of urine so that overgrowth of other organisms is prevented. Lactose together with the pH indicator Neutral red are used to detect lactose-positive colonies. Lactose-positive colonies are red and often surrounded by a turbid zone due to the precipitation of bile acids.

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	-



References:

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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)
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Precautions and Disclaimer

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