MacConkey Agar Base

M1024

Intended Use:

Recommended for studying carbohydrate fermentation reactions of coliforms by adding carbohydrates either individually or in combination.

Composition**

Ingredients	Gms / Litre
Peptone	17.000
Proteose peptone	3.000
Bile salts	1.500
Sodium chloride	5.000
Neutral red	0.030
Crystal violet	0.001
Agar	13.500
Final pH (at 25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 40.03 grams in 1000 ml purified / distilled water. Add desired amount of carbohydrate either individually or in combination. Heat to boiling with gentle swirling to dissolve the medium completely. Sterilize by autoclaving at 15lbs pressure for 15 minutes. Avoid overheating. Cool to 45-50°C. Mix well and pour into sterile Petri plates. The surface of the medium should be dry when inoculated.

Principle And Interpretation

MacConkey Agar is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens (1, 2). MacConkey Agar Base is used for studying carbohydrate fermentation reactions of coliforms by adding carbohydrates either individually or in combination (3). MacConkey Agar Base has peptone and proteose peptone, which provide nitrogen, carbon and vitamin source for the growth of bacteria. This medium does not contain carbohydrates. However for studying fermentation reaction, carbohydrate of interest has to be added while preparing medium. The selective action of this medium is attributed to bile salts and crystal violet, which are inhibitory to most of the species of gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment carbohydrates. Carbohydrate fermenting strains grow as red or pink and may be surrounded by a zone of acid precipitated bile. The red colour is due to production of acid from carbohydrate, absorption of neutral red and subsequent colour change of the dye when the pH of the medium falls below 6.8. Sodium chloride helps to maintain osmotic balance.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm comparable with 1.35% Agar gel.

Colour and Clarity of prepared medium

Red with purplish tinge clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH

6.90-7.30

Cultural Response

Cultural characteristics observed with added 1% lactose, after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony

8. MacConkey, 1900, The Lancet, ii:20.
9. MacConkey, 1905, J. Hyg., 5:333.
10. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
11. The United States Pharmacopoeia, 2019, The United States Pharmacopeial Convention.Rockville, MD.
12. 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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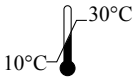
IVD — In vitro diagnostic medical device

CE Marking



Storage temperature


Do not use if package is damaged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