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Product Information

19352 Mac Conkey Agar No 1, Vegitone (Vegitone Mac Conkey Agar No 1)

Mac Conkey Agar No 1, Vegitone contains no animal derived material, expect the lactose is produced from milk. It is 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 (vegetable)	20.0
Synthetic detergent (Bile salt replacement)	5.0
Sodium chloride	5.0
Lactose	10.0
Neutral red	0.07
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.

Appearance: Pinkish beige coloured, homogeneous, free flowing powder.
Colour and Clarity: Light red coloured, clear to slightly opalescent gel forms in petri plates.

Directions:
Suspend 52 g in 1000 ml distilled water. Heat to boiling with gentle swirling to dissolve the agar completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C and pour into sterile petri plates. The surface of the medium should be dry when inoculated.

Principle and Interpretation:
MacConkey Agar Medium is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens (2, 3). Subsequently MacConkey Agar is recommended for use in microbiological examination of foodstuffs (4) and for direct plating / inoculation of water samples for coliform counts (5). This medium is also accepted by the Standard Methods for the Examination of Milk and Dairy Products (6) and pharmaceutical preparations (1).
Peptone (vegetable) is a peptone with a plant source and provides carbon, nitrogen, vitamines and other essential growth nutrients. Lactose fermenting strains, like *E.coli*, grow as red or pink. The red colour is due to production of acid from lactose, absorption of neutral red and a subsequent colour change of the dye when the pH of medium falls below 6.8. Colonies are often surrounded by a turbid zone due to the precipitation of bile acids. Lactose non-fermenting strains, such as Shigella and Salmonella are colourless and transparent and typically do not alter appearance of the medium. Most of the gram positive organisms are inhibited by the synthetic detergent. Sodium chloride maintains the osmotic equilibrium and agar is the solidifying agents.

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

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

References:

1. The United States Pharmacopoeia, XXI and the National Formulary, 16th Ed., United States Pharmacopeial Convention, Inc., Washington D.C. (1985)
2. MacConkey, The Lancet, ii:20 (1900)
3. MacConkey, J. Hyg., 5,333 (1905)
4. M. Speck M. (Ed.), Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C. (1985)
5. A.E. Greenberg, L.S. Clesceri, A.D. Eaton, (Eds.), Standard Methods for the Examination of Water and Wastewater, 18th ed., APHA, Washington, D.C. (1992)
6. R. Marshall (Ed.), Standard Methods for the Examination of Dairy Products 16th ed., APHA, Washington, D.C. (1992)