

MacConkey Agar

Catalog:HB6238-10-500

MacConkey Agar is used for selective isolation and cultivation of intestinal pathogenic bacteria.

Approximate Formula:

Ingredients	gm/liter
Pancreatic Digest of Gelatin	17.0
Peptones(Meat and Casein)	3.0
Lactose Monohydrate	10.0
Bile Salt	1.5
Sodium Chloride	5.0
Neutral Red	0.03
Crystal Violet	0.001
Agar	13.5
Final pH 7.1±0.2 at 25°C	

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 50.0g of the medium in one liter of distilled water or deionized water. Mix well and heat with frequent agitation to completely dissolve the powder. Sterilize in an autoclave at 121°C (15 lbs.) for 15 minutes.

Principle and Interpretation:

Pancreatic Digest of Gelatin and Peptones(Meat and Casein) provide sources of nitrogen and other nutrients. Yeast extract is a source of trace elements, vitamins, amino acids and carbon. Lactose is a fermentable carbohydrate. When lactose is fermented, a local pH drop around the colony causes a color change in the pH indicator (neutral red) and bile precipitation. Bile salts and crystal violet are selective agents that inhibit growth of gram-positive organisms. Sodium chloride maintains osmotic balance in the medium. Agar is the solidifying agent.

Appearance:

Dehydrated medium is a red powder. The prepared medium is a kind of red transparent gel.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

Storage conditions and Shelf life:

MacConkey Agar must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 3 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 36±1°C for 18-24 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Escherichia coli</i>	ATCC 8739	10-100	Luxuriant	≥ 50%	pink-red with bile precipitate.
<i>Escherichia coli</i>	ATCC 25922	10-100	Luxuriant	≥ 50%	pink-red with bile precipitate.
<i>Shigella flexneri</i>	ATCC 12022	10-100	Luxuriant	30-40%	Colorless
<i>Enterobacter aerogenes</i>	ATCC 13048	10-100	Luxuriant	≥ 50%	Pale pink to red
<i>Salmonella Enteritidis</i>	ATCC 13076	10-100	Luxuriant	≥ 50%	Colorless
<i>Proteus vulgaris</i>	ATCC 13315	10-100	Luxuriant	≥ 50%	Colorless
<i>Staphylococcus aureus</i>	ATCC 6538	100-1000	Inhibited	0%	/

Reference:

- Murray, Baron, Jorgensen, Landry and Pfaller (eds.). 2007. Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.
- Forbes, Sahm and Weissfeld. 2007. Bailey & Scott's diagnostic microbiology, 12th ed. Mosby Elsevier, St. Louis, Mo.
- European Directorate for the Quality of Medicines and Healthcare. 2008. The European pharmacopoeia, 6th ed., Supp. 1, 4-1-2008, online. European Directorate for the Quality of Medicines and Healthcare, Council of Europe, 226 Avenue de Colmar BP907-, F-67029 Strasbourg Cedex 1, France. Centers for Disease Control, Atlanta, Ga.