

MacConkey Agar (KFCC)



Medium used for the differentiation and isolation of lactose fermenting or none-fermenting gram-negative organisms, especially *Escherichia coli*.

• CONTENTS (Liter)

Pancreatic Digest of Gelatin	17.0 g
Pancreatic Digest of Casein	1.5 g
Meat Peptone	1.5 g
Lactose	10.0 g
Desoxycholate	1.5 g
Sodium Chloride	5.0 g
Neutral Red	0.03 g
Crystal Violet	0.001 g
Agar	13.5 g

Final pH = 7.1 ± 0.2 at 25°C.

• PROCEDURE

Suspend 50.03 G of powder in 1L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45-50°C in water bath. Mix well. Dispense into petri dishes.

• INTERPRETATION

MacConkey Agar (KFCC) is a medium used for differentiation and isolation of lactose fermenting or none-fermenting gram-negative organisms from clinical, dairy and pharmaceutical sources. Peptones provide the nitrogen and vitamin sources. Lactose is the fermentable carbohydrate. During lactose fermentation, colonies are surrounded by a zone of acid precipitated bile. Because of this, a local pH drops around the colony and neutral red acts as a pH indicator. In result, lactose fermenting organisms grow as pink or red but none-fermenting organisms do not. Bile salts No.3 and crystal violet inhibit the growth of gram-positive bacteria. Sodium chloride maintains the osmotic balance. Agar is the solidifying agent.

• TECHNIC

Inoculate the plates with spreading the specimen on surface of medium using a sterile loop. Incubate at 36 ± 1°C for 18 - 24 hours. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous.

Color: light pinkish-beige.

Prepared medium

Appearance : clear to slightly opalescent.

Color: purplish-red.

Incubation conditions: 36 ± 1°C / 18 - 24 hours

Microorganism	ATCC	Inoculum CFU	Growth	Characteristics	Bile Precipitate
<i>Escherichia coli</i>	25922	50-100	good	pink colony	+
<i>Salmonella typhimurium</i>	14028	50-100	good	colorless colony	-
<i>Proteus mirabilis</i>	25933	50-100	good	colorless colony	-
<i>Proteus rettgeri</i>	29944	50-100	good	colorless colony	-
<i>Enterococcus faecalis</i>	29212	≥10 ³	inhibited	-	-
<i>Staphylococcus aureus</i>	25923	≥10 ³	inhibited	-	-

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2-8°C.

• REFERENCES

1. United States Pharmacopoeia 24, 2000. Microbial Limit Tests, 1814-1818.
2. FDA (1995). Bacteriological Analytical Manual, 8th ed. Revision A., 1998. Published by AOAC International.
3. NCCLS document M22-A2, 1996. Quality Assurance for Commercially prepared Microbiological Culture Media 2nd ed.; Approved Standard.
4. American Health (1980). Standard Methods for the Examination of Water and Wastewater. 15th ed. APHA Inc. Washington DC.
5. Refer to the MFDS, the KFCC.

• PACKAGE

Cat. No : MB-M1028C MacConkey Agar (KFCC)	500 G
--	-------