

MacConkey Agar



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

*Equally use with MFDS (MB-M1028K), NIER (MB-M1028N), KP (MB-M1028P), USP and EP.

• CONTENTS (Liter)

Pancreatic Digest of Gelatin	17.0 g
Pancreatic Digest of Casein	1.5 g
Peptic Digest of Animal Tissue	1.5 g
Lactose	10.0 g
Bile Salts No.3	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. Pour into petri dishes.

• INTERPRETATION

MacConkey Agar is a medium used for the isolation and identification of lactose fermenting or none-fermenting Gram-negative organisms, especially *Escherichia coli*. Pancreatic digest of gelatin, pancreatic digest of casein, peptic digest of animal tissue provide the nitrogen and vitamin sources. Lactose is the fermentable carbohydrate. During lactose fermentation, a pH drops in the medium and Neutral red acts as a pH indicator. In result, lactose fermenting organisms grow as pink or red but non-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 30 - 35°C / 18 - 24 hours up to 72 hours (*MFDS : 36 ± 1°C / 18 - 24 hours). Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light pink-beige

Prepared medium

Appearance : slightly opalescent, may have slight black precipitates

Color: pinkish-red

Incubation conditions: 30 - 35°C / 18 - 24 hours up to 72 hours (*MFDS : 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. Store prepared medium at 2 - 8°C.

• REFERENCES

1. FDA (1995). Bacteriological Analytical Manual, 8th ed. Revision A., 1998. Published by AOAC International.
2. NCCLS document M22-A2, 1996. Quality Assurance for Commercially prepared Microbiological Culture Media 2nd ed.; Approved Standard.
3. American Health (1980). Standard Methods for the Examination of Water and Wastewater. 15th ed. APHA Inc. Washington DC.
4. Refer to the MFDS, NIER, KP, USP and EP.

• PACKAGE

Cat. No : MB-M1028 MacConkey Agar	500 G
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• MICROBIAL CULTURE IMAGES



Escherichia coli ATCC 25922 (50-100CFU)

Incubation conditions : 30 - 35°C, 18 - 24 hours