
MACCONKEY AGAR BASE

INTENDED USE

Remel MacConkey Agar Base is a solid medium recommended for use in qualitative procedures for the cultivation of gram-negative bacilli.

SUMMARY AND EXPLANATION

In 1900, MacConkey first described a neutral red bile salt medium for cultivation and identification of enteric organisms.¹ A detailed description of the selective and differential properties of the medium was published in 1905.² Over the years, MacConkey's original formula has been modified; the agar content has been reduced, the concentration of bile salts and neutral red has been adjusted, and sodium chloride has been added.³ MacConkey Agar Base is used with added carbohydrate to differentiate enteric gram-negative bacilli based on fermentation reactions.

PRINCIPLE

Peptones provide nitrogenous nutrients and amino acids necessary for bacterial growth. Sodium chloride supplies essential electrolytes and maintains osmotic equilibrium. Crystal violet and bile salts are selective agents which inhibit most gram-positive organisms. MacConkey Agar Base is used with added carbohydrate to differentiate enteric gram-negative bacilli based on fermentation reactions. When the carbohydrate is fermented, a local pH drop around the colony causes bile precipitation in the agar around the colony. Neutral red is an indicator which turns colonies pink when the carbohydrate is fermented. Agar is a solidifying agent.

REAGENTS (CLASSICAL FORMULA)*

Gelatin Peptone	17.0 g	Meat Peptone	1.5 g
Sodium Chloride.....	5.0 g	Crystal Violet	1.0 mg
Bile Salts	1.5 g	Neutral Red	30.0 mg
Casein Peptone.....	1.5 g	Agar	13.5 g
		Demineralized Water	1000.0 ml

pH 7.1 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 40 g of medium in 1000 ml of demineralized water.
2. Add carbohydrate in the desired concentration.
3. Heat to boiling with agitation to completely dissolve.
4. Sterilize by autoclaving at 121°C for 15 minutes.
5. Dispense into appropriate containers.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL

Each lot number of MacConkey Agar Base has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

CONTROL

Escherichia coli ATCC® 25922
Proteus mirabilis ATCC® 12453
Salmonella enterica serovar Typhimurium ATCC® 14028
Enterococcus faecalis ATCC® 29212

INCUBATION

Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C

RESULTS

Growth, pink colonies
Growth, colorless colonies
Growth, colorless colonies
Inhibition (partial to complete)

BIBLIOGRAPHY

1. MacConkey, A.T. 1900. Lancet. ii:20.
2. MacConkey, A.T. 1905. J. Hyg. 5:333.
3. MacFaddin, J.F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol. 1. Williams & Wilkins, Baltimore, MD.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

ATCC® is a registered trademark of American Type Culture Collection.
IFU 453812, Revised March 1, 2012

Printed in U.S.A.

remel

12076 Santa Fe Drive, Lenexa, KS 66215, USA

General Information: (800) 255-6730 Website: www.remel.com Email: remel@remel.com
Local/International Phone: (913) 888-0939 International Fax: (913) 895-4128