PRODUCT SPECIFICATION SHEET

MacConkey Agar w/ Bromo Thymol Blue (DM1726)

Intended Use
MacConkey Agar w/ Bromo Thymol Blue (DM1726) is recommended for detection of lactose fermenting enteric bacteria.

Product Summary and Explanation
MacConkey Agar is based on the bile salt-neutral red-lactose agar of MacConkey.[1] The original MacConkey medium was used to differentiate strains of *Salmonella typhosa* from members of the coliform group. MacConkey Agar is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens.[1, 2] The original medium contains protein, bile salts, sodium chloride and two dyes. MacConkey Agar w/ Bromo thymol blue is a modification of the original medium by the replacement of the two dyes with a single dye i.e. bromo thymol blue.

Principles of the Procedure
MacConkey Agar w/ Bromo Thymol Blue contains Peptic digest of animal tissue and proteose peptone which provides the essential nutrients and nitrogenous factors required for growth of microorganisms. Lactose is the fermentable source of carbohydrate. Bile salts attributes to the selective action of this medium, which is inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Bromo thymol blue is the indicator dye. Lactose fermenting enteric bacteria ferment lactose and produce acidic byproducts. This acidic condition formed causes the pH indicator dye i.e. bromo thymol blue to change colour from blue to yellow. Lactose non-fermenters fail to cause a colour change in the medium. Sodium chloride in the medium helps to maintain osmotic balance of the cells.

Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	17.00
Proteose peptone	3.00
Lactose	10.00
Bile salts	1.50
Sodium chloride	5.00
Bromo thymol blue	0.030
Agar	15.00
Final pH: 7.1 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Suspend 51.53 grams of the medium in one liter of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Mix well and pour into sterile petri plates.

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Quality Control Specifications

Dehydrated Appearance	Cream to greenish yellow homogeneous free flowing powder
Prepared Medium	Green coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 5.15% Solution	7.1±0.2
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of Colony
1.	*Enterobacter aerogenes ATCC 13048*	50 - 100	good-luxuriant	>=50%	yellow
2.	*Enterococcus faecalis ATCC 29212*	>=10^3	good-luxuriant	0%	--
3.	*Escherichia coli ATCC 25922*	50 - 100	good-luxuriant	>=50%	yellow
4.	*Proteus vulgaris ATCC 13315*	50 - 100	good-luxuriant	>=50%	colourless-light blue
5.	*Salmonella Typhi ATCC 6539*	50 - 100	good-luxuriant	>=50%	colourless-light blue
6.	*Shigella flexneri ATCC 12022*	50 - 100	good-luxuriant	>=50%	colourless-light blue
7.	*Staphylococcus aureus ATCC 25923*	>=10^3	inhibited	0%	--

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

1. A colour change in the medium, from blue to yellow indicates lactose fermention and acid production.
2. Lactose non-fermenters fail to cause a colour change in the medium.

Storage

Store the sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Although, MacConkey media are selective primarily for gram-negative enteric bacilli, for complete identification, biochemical and, if indicated, serological testing using pure cultures are recommended.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : MacConkey Agar w/ Bromo Thymol Blue
Product Code : DM1726
Available Pack sizes : 100gm/ 500gm

References

1. MacConkey, 1905, J. Hyg., 5:333.
2. MacConkey, 1900, The Lancet, ii:20.

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Further Information

For further information please contact your local MICROMASTER Representative.

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DM1726PSS,QAD/FR/024,Rev.00/01.01.2018

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	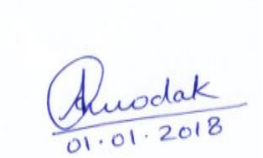	
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