MacConkey Sorbitol Agar Base

Intended Use
MacConkey Sorbitol Agar Base is recommended for isolation and identification of enteropathogenic *Escherichia coli* strains associated with infant diarrhea.

Summary
Escherichia coli O157:H7 is a human pathogen associated with hemorrhagic colitis. MacConkey Sorbitol Agar Base is a variant of traditional MacConkey Agar used in the detection of *E. coli* O157:H7. *Escherichia coli* O157:H7 differs from most other strains of *E. coli* in being unable to ferment sorbitol. In sorbitol MacConkey agar, lactose is replaced by sorbitol. Most strains of *E. coli* ferment sorbitol to produce acid. *E. coli* O157:H7 cannot ferment sorbitol, so this strain uses peptone to grow. This raises the pH of the medium allowing the O157:H7 strain to be differentiated from other *E. coli* strains through the action of the pH indicator in the medium.

Principle
Peptic digest of animal tissues and proteose peptone provide carbon and nitrogen while sodium chloride maintains the osmotic balance. D-sorbitol is the source of energy. Bile salt mixture and crystal violet inhibit the Gram-positive organisms. Neutral red is a pH indicator.

Formula*

Ingredients	**g/L**
Peptic Digest of Animal Tissue	17.0
Proteose Peptone	3.0
Sorbitol	10.0
Sodium Chloride	5.0
Bile Salt Mixture	1.5
Neutral Red	0.03
Crystal Violet	0.001
Agar	13.5
Final pH (at 25°C)	7.1 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Food and Dairy samples

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 50.03 g of the powder in 990 mL purified / distilled water.
2. Mix thoroughly.
3. Heat gently with frequent agitation to dissolve the powder completely. DO NOT OVERHEAT.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Pinkish orange coloured, soft homogenous powder.
Prepared Appearance: Light red to red coloured with purplish tinge, slightly opalescent gel forms in petridishes.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 30°C-35°C for 18-24 hours.
Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤100 cfu of appropriate microorganism at 30°C-35°C for 18 hours.
Indicative Properties: The test results observed are within the specified temperature and time, inoculating ≤100 cfu of appropriate microorganism.

Growth Promoting + Indicative Organism (ATCC)	**Growth**	**Colour of Colony**
Escherichia coli (8739)	Good	Pink
Salmonella serotype *Typhi* (NTCC 786)	Good	Pink
Shigella flexneri serotype 2b (12022)	Good	Colourless
Escherichia coli (25922)	Good	Pink
Escherichia coli serotype 011 and 055	Good	Colourless

Note: For good growth - Growth obtained on test media should not differ by a factor greater than 2 from calculated value for a standardized inoculum. For inhibition no growth of test microorganism should occur.

Interpretation of Results

Refer to appropriate references and procedures for results.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. March and Ratnam. 1986. J Clin Microbiol. 23**:** 869.
2. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	**Product description**	**Pack Size**
201130270100	Dehydrated Culture Media	100 g
201130270500	Dehydrated Culture Media	500 g