

# MAST® Culture Media and Supplements

## Technical Information Sheet

**Product Code DM 143**



## MacConkey Agar No.3

A selective medium for the bacteriological examination of pathological and food specimens.

### 1. Description

MAST MacConkey Agar No.3 is a differential plating medium corresponding to formulations recommended for use in the detection and isolation of salmonellae and shigellae from pathological and food specimens.<sup>1-3</sup> A modification of the original MacConkey medium<sup>4</sup> by the addition of salt and specially chosen bile salts, DM143 gives excellent differentiation of lactose and non-lactose fermenting organisms. All Gram positive bacteria are inhibited by the crystal violet and bile salts. Isolated colonies of

coliform bacteria are red in colour and may be surrounded by a zone of precipitated bile. This reaction is due to the action of the acids, produced by fermentation of lactose, on the bile salts and the subsequent absorption of neutral red. Non-lactose fermenting organisms give an alkaline reaction and do not greatly alter the medium, appearing as colourless or pale coloured translucent colonies. Also, when in close proximity to coliform colonies they may clear the areas of bile precipitation.

### 2. Technical Formula\*

Formula	grams per litre
Selected peptone Mixture	19.0
Crystal violet	0.001
Lactose	10.0
Sodium chloride	5.0
Natural red	0.03
Sodium Desoxycholate	1.0
Agar	15.0
<b>pH approx.7.2</b>	

### 3. Directions

1. Suspend by swirling 50.0g of powder in 1 litre or the contents of the sachet in the stated volume of distilled or deionised water.
2. Autoclave at 121°C(15 p.s.i.) for 15 minutes.
3. Mix well before pouring.

#### 4. In Use

Inoculate the plate by streaking with the material under test to achieve well isolated colonies. Incubate at 37°C for 18-24 hours. The use of another selective medium in parallel, such as D.C.A. (DM130, DM131), X.L.D. Agar (DM230) or Bismuth Sulphite Agar (DM 103 and DM103s) is recommended. For urine bacteriology a diagnostic medium such as C.L.E.D. (DM110 or DM111) is to be preferred.

#### 5. References

1. American Public Health Association *Standard Methods for the Examination of Water and Sewage* 1946; 9th Edition 228.
2. American Public Health Association *Standard Methods for the Examination of Dairy Products* 1948; 9th Edition 166.
3. Diagnostic Procedures and Reagents 1950; 3rd Edition 195.
4. MacConkey A. *J Hygiene* 1905; 5: 333-379.



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\*Formulation may be modified to meet performance criteria

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