

## TM 2248 - MUCATE BROTH

### INTENDED USE

For identification of enteropathogenic *Escherichia coli* and *Salmonella* species from milk and milk products.

### PRODUCT SUMMARY AND EXPLANATION

Mucate Broth is prepared based on the formula originally developed by Kauffman and Petersen and recommended by APHA for identification of enteropathogenic *Escherichia coli* from milk and milk products. This medium can also be used as an aid in differentiation of *Enterobacteriaceae* especially within *Salmonella* genus.

Transfer a loopful of 24 hour Tryptone Broth culture to Mucate Broth. Include Mucate Control Broth tube as a control because occasionally un-inoculated tubes of Mucate Broth turn blue on standing. Incubate at  $48 \pm 1$  hour at  $35^{\circ}\text{C}$ . A negative test result is indicated by a blue or unchanged colour in this broth. 90 % of the *E. coli* strains are mucate positive.

### COMPOSITION

Ingredients	Gms / Ltr
Mucic Acid	10.000
Peptic digest of animal tissue	10.000
Bromothymol blue	0.024

### PRINCIPLE

Mucic acid is a saccharolactic acid or also called as tetrahydroxyadipic acid and acts as a carbon source in the medium. It is fermented by enteropathogenic *Escherichia coli*, *Salmonella* Paratyphi B and also by *Klebsiella pneumoniae* to produce acid, which makes the medium yellow as the pH, indicator is bromo thymol blue. Peptic digest of animal tissue supplies the necessary nutrients to the organisms.

### INSTRUCTION FOR USE

- Dissolve 20.02 grams in 1000 ml distilled water.
- Dissolve mucic acid by slowly adding 5 N sodium hydroxide and stirring.
- Dispense in 5 ml amounts in screw-capped tubes.
- Sterilize by autoclaving at 15 psi pressure ( $121^{\circ}\text{C}$ ) for 10 minutes.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Blue coloured clear solution without any precipitate.
pH (at $25^{\circ}\text{C}$ )	: $7.4 \pm 0.2$

### INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of medium	Incubation Temperature	Incubation Period

<i>Escherichia coli</i>	25922	50-100	Luxuriant	Yellow	35-37°C	24-48 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	Yellow	35-37°C	24-48 Hours
<i>Salmonella paratyphi B</i>	1250	50-100	Luxuriant	Yellow	35-37°C	24-48 Hours

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.







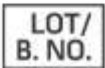


**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

1. Kauffmann F., and Petersen A., 1956, Acta. Pathol. Microbiol. Scand., 38 (6): 481.
2. Marshall R. (Ed.), 1992, Standard Methods for the Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
3. MacFaddin J.F., 1985, Media for Isolation - Cultivation - Identification - Maintenance of Medical Bacteria, Vol.I, Williams and Wilkins, Baltimore.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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