

17178 Mucate Broth NutriSelect® Plus

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

Composition:

Ingredients	Grams/Litre
Mucic acid	10.0
Peptone	10.0
Bromothymol Blue	0.024

Final pH 7.4 +/- 0.2 at 25°C

Store granulated media below 30°C in tightly closed container and the prepared medium at 2- 8°C.
Use before expiry date on the label.

Appearance(color): Faint yellow and faint beige and faint brown, free flowing powder
Color and Clarity: Faint blue to blue coloured clear solution without any precipitate

Directions:

Suspend 20 g in 1 litre distilled water. Dissolve Mucic acid by slowly adding 4 N sodium hydroxide and stirring, adjust pH to 7.4. Dispense in 5 ml amounts in screw-capped tubes. Sterilize by autoclaving at 121°C for 10 minutes.

Principle and Interpretation:

Milk and milk products are susceptible to contamination by many microorganisms including microbial pathogens responsible for causing diseases. Various processes including pasteurization, boiling or storage under refrigerated conditions are undertaken to minimize the microbial contamination of milk. Mucate Broth is prepared based on the formula originally developed by Kauffman and Petersen (2) and recommended by APHA (3) 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.

Mucate Broth contains peptic digest of animal tissue which provides carbon, nitrogen, and other necessary nutrients to the organisms. Mucic acid is a saccharolactic acid or also called as tetrahydroxyadipic acid which acts as a carbon source in the medium. Enteropathogenic *Escherichia coli*, *Salmonella Paratyphi B* and *Klebsiella pneumoniae* ferments mucic acid to produce acid, which makes the medium yellow as the pH, indicator is bromo thymol blue. (1)

Cultural characteristics observed after an incubation at 35-37°C for 24-28 hrs.

Organisms (ATCC/WDCM)	Inoculum (CFU)	Growth	Color of medium
<i>Escherichia coli</i> (25922/00013)	50-100	+++	yellow
<i>Klebsiella pneumoniae</i> (13883/00097)	50-100	+++	yellow
<i>Salmonella paratyphi B</i> (8759/-)	50-100	+++	yellow



References:

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

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

