Technical Data

Mucate Control HiVeg™ Broth

MV1227

Intended Use

Recommended for identification of enteropathogenic *Escherichia coli* and *Salmonella* species from milk and milk products on the basis of mucate utilization.

Composition**

Ingredients	Gms / Litre
HiVeg™ peptone	10.000
Bromo thymol blue	0.024
Final pH (at 25°C)	7.4±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 10.02 grams in 1000 ml distilled water. Dispense in 5 ml amounts in screw-capped tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes.

Principle And Interpretation

Mucate Control HiVeg™ Broth is prepared by vegetable peptones which are free of BSE/TSE risks associated with animal peptones. It is the modification of Mucate Broth which is prepared based on the formula originally developed by Kauffman and Petersen (1) recommended by APHA (2) 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 (3). Mucic acid is a saccharolactic acid or also called as tetrahydroxyadipic acid and acts as a sole 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 bromothymol blue (4). If the medium remains blue-green the organisms being tested does not utilize the mucate

HiVeg™ peptone supplies the necessary nutrients to the organisms. Transfer a loopful of 24 hour Tryptone HiVeg Broth (MV463) culture to Mucate HiVeg Broth. Include Mucate Control Broth tube as a control. Incubate at 48±1 hour at 35-37°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.

Type of specimen

Dairy samples

Specimen Collection and Handling

For dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (2).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidleines should be followed while handling clincal specimens. Saftey guidelines may be referred in individual safety data sheets

Limitations :

Further biochemical identification is required for confirmation of species.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
Cream to pale green homogeneous free flowing powder

Colour and Clarity of prepared medium
Blue coloured clear solution

Reaction
Reaction of 1.0% w/v aqueous solution at 25°C. pH : 7.4±0.1

pH
7.30-7.50

Cultural Response
MV1227: Cultural characteristics observed with added 1% Mucic acid at 35 - 37° C for 24 - 48 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922 (00013)*	50-100	luxuriant
Klebsiella pneumoniae ATCC 13883 (00097)*	50-100	luxuriant
Salmonella Paratyphi B ATCC 8759	50-100	luxuriant

Key:- *(*) Correspondinf WDCM numbers*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

1.Kauffmann, F. and Petersen, A. 1956. Acta. Pathol. Microbiol. Scand., 38(6).
2.Wehr, H.M. and Frank, J.H. 2004. Standard Methods for the Examination of Dairy Products. 17 ed.
3.Ewing. 1986. Edwards and Ewings Identification of Enterobacteriaceae. 4 ed. N.Y: Elsevier Science Pub. Co., Inc.
4.MacFaddin, J. F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria vol. 1. Baltimore: Williams and Wilkins.
5.Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition.
6. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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