

Technical Information

Motility Test Medium (Edwards and Ewing)

Product Code: DM 1930S

Application: - Motility Test Medium (Edwards and Ewing) is used for testing motility of enteric bacteria.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Meat extract	3.000
Sodium chloride	5.000
Agar	4.000
Final pH (at 25°C)	7.5±0.1

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Motility Test Medium is devised by Edward and Ewing ⁽¹⁾ is also recommended by BIS for testing of motility of *Escherichia coli* ⁽²⁾ and *Vibrio cholerae* and *Vibrio parahaemolyticus* ⁽³⁾. Motility media containing agar concentrations higher than 0.3% produce gels through which many motile organisms cannot spread. Motile organisms spread out from the line of inoculation, while non-motile organisms grow only along the stab line.

The tubes are inoculated by stabbing with a straight wire. Motility is visualized as diffused growth away from line of inoculation. To enhance the visibility of bacterial growth 2, 3, 5 Triphenyl Tetrazolium Chloride (TTC) (MS2057) may be added. Tetrazolium salts are colourless but are converted into insoluble formazan, a red coloured complex by the reducing properties of growing bacteria. In the Motility Test Medium containing tetrazolium, the development of this red colour helps to trace the spread of bacteria from the inoculation line. The motility of *Listeria monocytogenes* is frequently best observed in medium without TTC.

Methodology

Suspend 22 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Dispense 8 ml amounts in test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the tubed medium in an upright position.

Quality Control

Physical Appearance

Yellow coloured homogeneous free flowing powder

Gelling

Semisolid, comparable with 0.4% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured clear gel form in tubes as butts.

Reaction

Reaction of 2.2% w/v aqueous solution at 25°C. pH : 7.5±0.1

PH Range:- 7.40-7.60

Cultural Response/Characteristics

DM1930S: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Growth	Motility
<i>Enterobacter aerogenes</i> ATCC 13048	Luxuriant	Positive growth away from stabline causing turbidity
<i>Escherichia coli</i> ATCC 25922	Luxuriant	Positive growth away from stabline causing turbidity
<i>Klebsiella pneumonia</i> ATCC 13883	Luxuriant	Negative growth along the stabline surrounding medium remains clear
<i>Salmonella Enteritidis</i> ATCC 13076	Luxuriant	Positive growth away from stabline causing turbidity
<i>Staphylococcus aureus</i> ATCC 25923	Luxuriant	Negative growth along the stabline surrounding medium remains clear
<i>Vibrio cholerae</i> ATCC 15748	Luxuriant	Positive growth away from stabline causing turbidity
<i>Vibrio parahaemolyticus</i> ATCC 17802	Luxuriant	Positive growth away from stabline causing turbidity

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Edward P.R. and Ewing W.H. 1972, Cited from, Colour Atlas and Textbook of Diagnostic Microbiology, 1992, 4th ed., J.B. Lippincott Co. Philadelphia.
2. Bureau of Indian Standards, IS: 5887 (Part - I) 1976, reaffirmed 1986.
3. Bureau of Indian Standards, IS: 5887 (Part - V) 1976, reaffirmed 1986.
4. Howard B. J. and Other (Eds.), 1994, Clinical and Pathogenic Microbiology, The C. V. Mosby. Year Book, Inc.
5. Baron. E. J. and Tenenbaum S. M. (Eds.), 1990, Bailey and Scott's 'Diagnostic Microbiology, 8th ed., The C. V. Mosby. Co, St., Louis, Missouri.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specifications for identity and performance parameters.