Motility Test Medium (Edwards and Ewing) BIS

Intended Use
Motility Test Medium (Edwards and Ewing) BIS is used for detection of bacterial motility recommended by BIS under the specifications IS: 5887 (Part I and Part V)-1976.

Summary
Bacterial motility is an important determinant in making a final species identification. In 1936, Tittsler and Sandholzer first introduced the use of semi solid agar for the detection of bacterial motility. Edward and Ewing formulated Motility Test medium.

Principle
Peptic digest of animal tissue serves as a source of carbon, nitrogen, vitamins and minerals. Meat extract also serves as a good source of nutrition. Sodium chloride provides sodium ions for the membrane transport and maintains osmotic equilibrium of the medium. In motility media agar concentrations is used higher than 0.3% to produce semi solid media. In semi solid media motility is detected more easily. Motile organisms spread out from the line of inoculation, while non-motile organisms grow only along the stab line.

Formula*

Ingredients	**g/L**
Peptic Digest of Animal Tissue	10.0
Meat Extract	3.0
Sodium Chloride	5.0
Agar	4.0
Final pH (at 25°C)	7.5 ± 0.1

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 22.00 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Dispense 8 mL amounts into test tubes.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Allow the tubed medium to cool in an upright position

Quality Control
Dehydrated Appearance: Yellow to cream coloured, homogenous, free flowing powder
Prepared Appearance: Light yellow coloured, slightly opalescent gel forms as butts.
Cultural Response: Cultural characteristics observed after an incubation of 18-48 hours at 30°C-35°C.

Organism (ATCC)	Growth	Motility
Escherichia coli (8739)	Good	+
Klebsiella aerogenes (13048)	Good	+
Klebsiella pneumoniae subsp. *pneumoniae* (10031)	Good	-
Escherichia coli (25922)	Good	+
Staphylococcus aureus subsp. *aureus* (6538)	Good	-
Staphylococcus aureus subsp. *aureus* (25923)	Good	-
Salmonella Enteritidis (13076)	Good	+
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	+
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (23564)	Good	+

Key :
(+) for Motility - Growth away from stabline causing turbidity
(-) for Motility - Growth along the stabline, surrounding medium remains clear

Interpretation of Results
Motile organisms spread out from the line of inoculation.
But the non-motile organisms grow only along the tine of inoculation.

Performance and Evaluation
Performance of the product is dependent on following parameters as per product label claim:
1. Directions
2. Storage
3. Expiry

Warranty
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. R. P. Tittsler and L. A. Sandholzer, 1936. The use of semi-solid agar for the detection of bacterial motility J Bacteriol. 31(6): 575-580.
2. Edward PR. and Ewing W.H. 1972. Cited from, Colour Atlas and Textbook of Diagnostic Microbiology, 1992. 4th ed., J. B. Lippincott Co. Philadelphia.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:
Cat No.	Product description	Pack Size
201130600100	Dehydrated Culture Media	100 g