Motility Test Medium

Intended Use
Motility Test Medium is used for detection of bacterial motility.

Summary
Bacterial motility can be observed directly on microscopic slide or it can be visualized on motility media having agar concentration of 0.4% or less. Use of such semisolid media to observe or detect motility was reported by Tittsler and Sandholzer. Motility Test Medium is a modification of their formulation. Motility can be visualized as a diffused zone of growth flaring out from the line of inoculation. Hanging drop technique in motility tests has practical difficulties, which is efficiently eliminated by use of culture-based methods using semi-solid media, as in semisolid media; the results obtained are macroscopic and cumulative.

Principle
Tryptose serve as a source of essential growth nutrients required for bacterial metabolism. Sodium chloride maintains the osmotic equilibrium of the medium. Small amount of agar helps to create a semisolid medium.

Formula*
Ingredients	**g/L**
Tryptose	10.0
Sodium Chloride	5.0
Agar	5.0
Final pH (at 25°C)	7.2 ± 0.2

*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 20.00 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Warm slightly with frequent agitation to dissolve the powder completely.
4. Dispense in test tubes and sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

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 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

1. Non-motile organisms grow only along the line of inoculation whereas motile organisms grow away from the line of inoculation or may show growth even throughout the medium.
2. All weak or equivocal motility results should be confirmed by flagellum stain or by direct wet microscopy (hanging drop)

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. Koneman E. W., Allen S. D., Janda W. M., Schreckenberger P. C., Winn W. C. Jr., (Eds.), 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed., J. B. Lippinccott Company.
2. Tittsler R. P. and Sandholzer L. A., 1936, J. Bacteriol., 31:575.
3. DAmato R. F., and Tomfohrede K. M., 1981, J. Clin. Microbiol., 14 (3), 347-348.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130590100	Dehydrated Culture Media	100 g
201130590500	Dehydrated Culture Media	500 g