TM 2247 - MOTILITY TEST MEDIUM (EDWARDS AND EWING)

INTENDED USE
For testing motility of enteric bacteria.

PRODUCT SUMMARY AND EXPLANATION
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 the modification of the original formulation as per Edwards and Ewing and is used for testing motility of *Enterobacteriaceae*. Motility can be visualized as a diffused zone of growth flaring out from the line of inoculation.

Bacterial motility can be observed directly by examination of the tubes following incubation. Inoculation is done by stabbing through the centre of the medium. Incubate at appropriate temperature for 18 to 40 hours. 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. All weak or equivocal motility results should be confirmed by flagellum stain or by direct wet microscopy (hanging drop). To enhance the visibility of bacterial growth 2,3,5 Triphenyl Tetrazolium Chloride (TTC) 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 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.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	10.000
Beef extract	3.000
Sodium chloride	5.000
Agar	4.000

PRINCIPLE
Peptic digest of animal tissue, beef extract serves as sources 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.

INSTRUCTION FOR USE
- Dissolve 22 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense 8 ml amounts in test tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool the tubed medium in an upright position.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light yellow coloured clear to slightly opalescent gel forms in tubes as butts.
pH (at 25°C) : 7.4±0.2

INTERPRETATION
Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Motility	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Positive, growth away From stabline causing turbidity	35-37°C	18-24 Hours
Enterobacter aerogenes	13048	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	Negative, growth along the stabline, surrounding medium remains clear	35-37°C	18-24 Hours
Salmonella Enteritidis	13076	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	35-37°C	18-24 Hours
Staphylococcus aureus subsp. aureus	25923	50-100	Luxuriant	Negative, growth along the stabline, surrounding medium remains clear	35-37°C	18-24 Hours
Vibrio cholerae	15748	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	35-37°C	18-24 Hours
Vibrio parahaemolyticus	17802	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	35-37°C	18-24 Hours

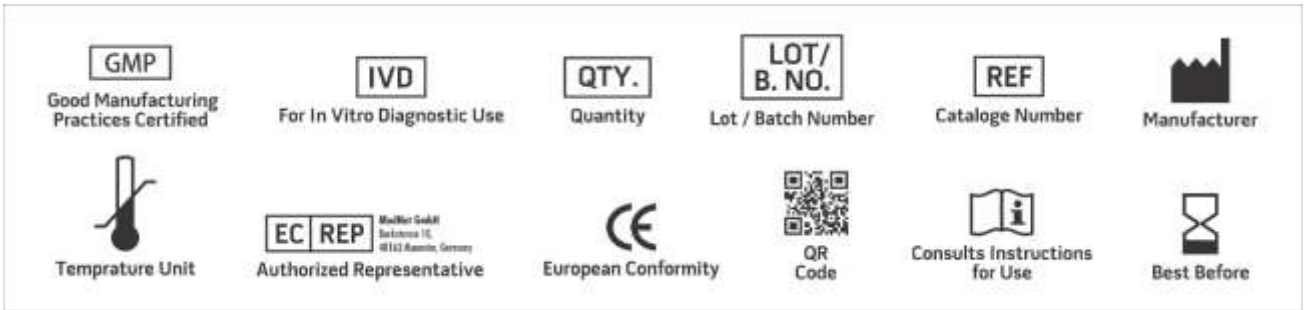
PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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. Edward P. R. and Ewing W. H. 1972, Identification of Enterobacteriaceae 3rd Ed., Minneapolis, Burgess.2.
4. Howard B. J. and Other (Eds.), 1994, Clinical and Pathogenic Microbiology, The C. V. Mosby. Year Book, Inc.
5. Baron. E. J. and Finegold S. M. (Eds.), 1990, Bailey and Scott's `Diagnostic Microbiology, 8th ed., The C. V. Mosby. Co, St., Louis, Missouri.
6. DAmato R. F., and Tomfohrede K. M., 1981, J. Clin. Microbiol., 14 (3), 347-348.
7. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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