Chaitanya Group Of Industries

ReadyMED®
Dehydrated Cell Culture Media

Technical Data Sheet

Mannitol Motility Test Medium RDM-MMT-01

Principle
Mannitol mobility test medium is used to detect the mannitol fermenters and mobility of microorganisms. The media is composed of peptic digest of animal tissue, mannitol, potassium nitrate, phenol red and agar. Peptic digest of animal tissue promotes luxuriant growth of highly fastidious microorganisms and provides nitrogen and other necessary growth factors. Mannitol is carbon source. Potassium nitrate stimulate motility of microorganisms. Phenol red is pH indicator. Less concentration of agar, which make it very soft and allow the mobile bacteria to migrate. The inoculum is stabbed into the center of a semisolid agar deep using a sterile inoculating needle. The mannitol fermenters produce acid and media color changes form red to yellow. If the mannitol fermenting bacteria are motile the color of media changes throughout the medium and if non-motile the color of media changes towards the stab line and surrounding media remains pink to red in color. While the non-mannitol fermenters diffuse into the media and growth extending out from the line of inoculation without changing the color of media. The dynamic motile organisms grow throughout the entire medium, whereas sluggish organism show small areas or nodules that grow out from the line of inoculation. The non-motile bacteria only grow show the growth on stab line where they are inoculated.

Use: Recommended for testing bacterial mobility and mannitol fermentation.

Contents*

Ingredients	**Gram/Litre**
Peptic Digest of Animal Tissue	20.000
Mannitol	2.000
Potassium Nitrate	1.000
Phenol Red	0.040
Agar	3.000
pH at 25˚C	7.6 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 26.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute aseptically in test tubes. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C and allow to solidify to forms semi solid butt. Ensure complete solidification and inoculate test sample stabbed into the center of a semisolid agar deep using a sterile inoculating needle aseptically.

Specimens types analyzed
Pharmaceutical samples, clinical and non-clinical samples etc.

Precautions to be taken
These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation
The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Reddish beige colored free flowing, homogeneous powder
Reaction of 2.6% solution	7.6 ±0.2 at 25 ˚C
pH	7.40- 7.80
Gelling	Semi solid comparable with 0.3% agar gel
Color and clarity of ready medium	Pink to Light red colored opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 ºC for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Prepare media as per the label directions. Inoculate and incubate at 37 ± 2 ˚C for 18-24h

Organism	Inoculum	Growth	Mannitol fermentation	Mobility
Escherichia coli (ATCC 8739)	50-100	Luxurious	Yellow color Positive reaction	Growth away from stab line (Positive)
Staphylococcus aureus (ATCC25923)	50-100	Luxurious	Yellow color Positive reaction	Growth along the stab line (Negative)

Storage and Shelf Life

Hygroscopic; keep container tightly closed. Store in cool dry place.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

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4. MacFaddin J. F., (1985), *Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria*, Vol. 1, Williams and Wilkins, Baltimore
5. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.

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