

TECHNICAL DATA SHEET

Yeast Mannitol Agar w/ Congo Red

Principle

Yeast extract mannitol agar is used for isolation of nitrogen fixing Rhizobium from root nodules and rhizospheric soil samples. It is composed of yeast extract, mannitol, dipotassium phosphate, magnesium sulphate, sodium chloride, congo red and agar. Yeast extract serves as a good source of readily available amino acids, vitamin B complex and accessory growth factors for Rhizobia. It also aids in oxidation-reduction potential of medium in the range favorable for Rhizobia and serves as hydrogen donor in respiratory process. Mannitol is the carbon source. Dipotassium phosphate resists the change in pH of medium. Magnesium provides cations essential for the growth of Rhizobia. Congo red inhibits penicillin-susceptible strains. Colonies of Rhizobia stand out as white, translucent, glistening and elevated, with entire margins.

Use: For cultivation of soil microorganisms like Rhizobium species.

Contents*

Ingredients	Gram/Litre
Yeast extract	1.000
Mannitol	10.000
Dipotassium phosphate	0.500
Magnesium sulphate	0.200
Sodium chloride	0.100
Congo red	0.025
Agar	20.000
pH at 25°C	6.8 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 31.80 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Root nodules and soil samples etc.

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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	Pinkish beige colored free flowing, homogeneous powder
Reaction of 3.18% solution	6.8 ±0.2 at 25 °C
pH	6.60- 7.00
Gelling	Firm comparable with 2% agar gel
Color and clarity of ready medium	Brick red to orange colored opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 25-30°C for 2-5 days
Indicative properties	Optimum at ≤ 100 CFU at 25-30°C for 2-5 days
Negative control	Performed using sterile distilled water

Different Microbial Response

Organism	Inoculum	Growth	Recovery	Colony color	Incubation period
<i>Rhizobium species</i> (Lab isolate)	50-100	Luxurious	70-80%	Pink	25-30 °C, 2-5 days

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

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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

1. Pelczar M. J. Jr., Reid R. D, Chan E. C. S., (1977), *Microbiology*, Tata McGraw-Hill Publishing company Ltd, New Delhi.
2. Subba Rao N. S., (1977), *Soil Microorganisms and Plant Growth*, Oxford and IBH Publishing Co.

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