

TECHNICAL DATA SHEET

Rhizobium Medium Broth

Principle

Yeast 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 and sodium chloride. 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.

Use: For cultivation and isolation of Rhizobium species.

Contents*

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

*** Formula adjusted for optimum performance and parameters**

Directions: Dissolve 11.80 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 inoculate test sample aseptically.

Specimens' types analyzed

Biofertilizer and Root nodules and soil samples etc.

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Precautions to be taken

These plant tissue culture 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	Light beige colored free flowing, homogeneous powder
Reaction of 1.18% solution	6.8 $\pm$ 0.2 at 25 °C
pH	6.60- 7.00
Color and clarity of ready medium	Light yellow colored opalescent solution
Growth Promotion properties	Best at $\leq$ 100 CFU at 25-30°C for 3-5 days
Indicative properties	Optimum at $\leq$ 100 CFU at 25-30°C for 3-5 days
Negative control	Performed using sterile distilled water

Different Microbial Response

Organism	ATCC	Inoculum	Growth	Incubation period
<i>Bradyrhizobium japonicum</i>	10324	50-100	Luxuriant	25-30°C, 3-5 days
<i>Rhizobium species</i> (Lab isolate)	--	50-100	Luxuriant	25-30°C, 3-5 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.

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.

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Reference

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2. Subba Rao N. S., (1977), Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co.

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