TM 566 - YEAST MANNITOL BROTH

INTENDED USE

For cultivation of *Rhizobium* species.

PRODUCT SUMMARY AND EXPLANATION

Beijerinck was first to isolate and cultivate an aerobic gram negative rod-shaped microorganism from the nodules of legume. He named it *Bacillus radicicola.* which was subsequently placed under the genus *Rhizobium.* Bacteria belonging to the genus *Rhizobium* live freely in soil and in the root region of both leguminous and non-leguminous plants. However, they can enter into symbiosis only with leguminous plants by infecting their roots and forming nodules on them. *Rhizobium* present in these root nodules fixes atmospheric nitrogen i.e. gaseous nitrogen from air to organic nitrogen compounds, which is absorbed by plants. Thus role of *Rhizobium* is noteworthy for their major contributions to soil fertility. Yeast Mannitol Broth is used for the cultivation of the symbiotic nitrogen fixing organisms viz. *Rhizobium* species.

COMPOSITION

Ingredients	Gms / Ltr
Yeast extract	1.000
Mannitol	10.000
Dipotassium phosphate	0.500
Magnesium sulphate	0.200
Sodium chloride	0.100
Calcium carbonate	1.000

PRINCIPLE

Yeast extract serves as a good source of readily available amino acids, contain vitamin B complex and accessory growth factors for Rhizobia. It also poises oxidation - reduction potential of medium in the range favorable for Rhizobia and serves as hydrogen donor in respiratory process. Mannitol is the fermentable sugar alcohol source. Calcium and magnesium provide cations essential for the growth of Rhizobia.

INSTRUCTION FOR USE

- Dissolve 12.8 grams in 1000 ml distilled water.
- Heat just to boiling.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and dispense into sterile test tubes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : White to cream homogeneous free flowing powder.
Appearance of prepared medium : Whitish buff coloured opalescent solution in tubes.
pH (at 25°C) : 6.8±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

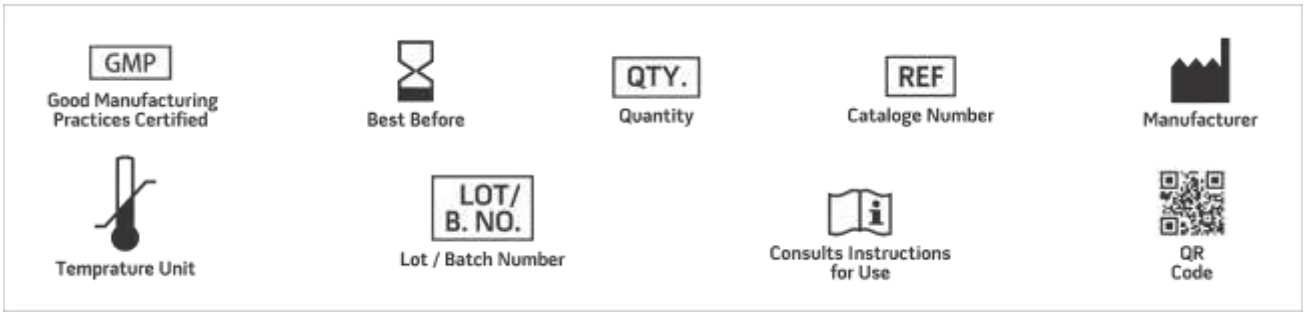
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Rhizobium leguminosarum	10004	50-100	Luxuriant	25-30°C	Upto 5 days
Rhizobium meliloti	9930	50-100	Luxuriant	25-30°C	Upto 5 days

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. Subba Rao N.S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBG Publishing Company.
2. Allen. E.K. and Allen. O.N., 1950, Bacteriol. Rev., 14:273.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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