

TM 1884 - YEM BROTH

INTENDED USE

For cultivation of *Agrobacterium* species and other soil microorganisms.

PRODUCT SUMMARY AND EXPLANATION

YEM broth is widely used for the cultivation of *Agrobacterium* species and other soil microorganisms. *Agrobacterium* is a genus of Gram negative bacteria. The *Agrobacterium* genus is quite heterogenous. *Agrobacterium* is well known for its ability to transfer DNA between itself and plants. *Agrobacterium tumefaciens* is a ubiquitous soil borne pathogen responsible for Crown Gall disease, affecting many higher species of plant. YEM broth is also used for the cultivation of the symbiotic nitrogen fixing microorganisms like *Rhizobium* species to make it suitable for the production of legume inoculants.

COMPOSITION

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

PRINCIPLE

YEM broth which contains mannitol as a carbon source and yeast extract as a source of both nitrogen and growth factors for *Agrobacteria*. 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. Magnesium provides cations essential for the growth of *Agrobacteria*.

INSTRUCTION FOR USE

- Suspend 11.80 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light amber coloured clear solution.
pH (at 25°C)	: 7.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
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<i>Rhizobium leguminosarum</i>	10004	50-100	Luxuriant	25-30°C	5 days
<i>Rhizobium meliloti</i>	9930	50-100	Luxuriant	25-30°C	5 days
<i>Agrobacterium tumefaciens</i>	33970	50-100	Luxuriant	25-30°C	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.







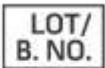


Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Allen. E.K. and Allen. O.N., 1950, Bacteriol. Rev., 14:273.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Loper, J. E. and Ishimaru, C. A., in The Rhizosphere and Plant Growth (eds Keister, D. L. and Cregan, P. B.), Kluwer Academic Publishers, 1991, pp. 253–261.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**
Revision: 08 Nov., 2019