YEM Agar

Intended Use
YEM Agar is widely used for the cultivation of *Agrobacterium* species and other soil microorganisms.

Summary
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 Agar 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.

Principle
YEM Agar 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 favourable 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.

Formula*
Ingredients	g/L
Yeast Extract	1.0
Mannitol	10.0
Dipotassium Hydrogen Phosphate	0.5
Magnesium Sulphate	0.2
Sodium Chloride	0.1
Agar	15.0
Final pH (at 25°C)	7.0 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 26.80 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Mix well and pour in sterile petridishes.

Quality Control
Dehydrated Appearance: Cream coloured, homogenous, free flowing powder.
Prepared Appearance: Transparent, clear to slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 25°C-30°C for upto 5 days.

Organism (ATCC)	Growth
Rhizobium leguminosarum (10004)	Good
Rhizobium meliloti (9930)	Good
Agrobacterium tumefaciens (33970)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Allen. E.K. and Allen. O.N., 1950, Bacteriol. Rev., 14:273.
2. 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.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat. No.	Product Description	Pack Size
201250010500	Dehydrated Culture Media	500 g