

## TM 135 – JENSEN'S MEDIUM

### INTENDED USE

For detection and cultivation of nitrogen fixing bacteria.

### PRODUCT SUMMARY AND EXPLANATION

Nitrogen-fixing organisms are free-living bacteria, which grow well on a nitrogen-free medium. These bacteria utilize atmospheric nitrogen gas for their cell protein synthesis. This cell protein is then mineralized in soil after the death of the cells thereby contributing towards the nitrogen availability of the crop plants. Nitrogen fixing bacteria enter into symbiosis only with leguminous plants, by infecting their roots and forming nodules on them. Jensens Medium is formulated according to Jensen and is recommended for detection and cultivation of nitrogen fixing bacteria.

### COMPOSITION

Ingredients	Gms / Ltr
Sucrose	20.000
Dipotassium hydrogen phosphate	1.000
Magnesium sulphate	0.500
Sodium chloride	0.500
Ferrous sulphate	0.100
Sodium molybdate	0.005
Calcium carbonate	2.000
Agar	15.000

### PRINCIPLE

The medium consists of Sucrose which acts as the energy source. Sodium molybdate in the media increases the fixation of nitrogen. Sodium chloride maintains osmotic equilibrium of the media. Calcium stimulates nodulation when present as chloride or sulphate.

### INSTRUCTION FOR USE

- Dissolve 39.1 grams in 1000 ml purified / distilled water.
- Heat just to boiling. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50C. Mix well and pour into sterile Petri plates.

Note: Due to presence of calcium carbonate, the medium forms opalescent solution with white precipitate.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : White to cream homogeneous free flowing powder.

**Appearance of prepared medium** : Cream coloured, slightly opalescent gel with a slight precipitate forms in Petri plates.

**pH (at 25°C)** : 7.0 ± 0.2

### INTERPRETATION



Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Rhizopus oryzae</i>	9363	50-100	Luxuriant	>=70%	30°C	8 Days
<i>Rhizobium leguminosarum</i>	10004	50-100	Luxuriant	>=70%	30°C	8 Days
<i>Rhizobium meliloti</i>	9930	50-100	Luxuriant	>=70%	30°C	8 Days

**PACKAGING:**

In pack size of 100 gm and 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. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
2. Jensen. H. L., 1942, Pro Line Soc. N.S.W., 57,205-212.
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. Ranganayaki S., Mohan C., Ally Z., 1981; 21 (8): 607-10.
5. Subba Rao N. S., 1977, In: Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi, Pages 254-255.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. 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  
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