Jensen's Medium

Intended Use
Jensen's Medium is used for detection and cultivation of nitrogen fixing bacteria.

Summary
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. Jensen's Medium is formulated according to Jensen and is recommended for detection and cultivation of nitrogen fixing bacteria.

Principle
Sucrose 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.

Formula*

Ingredients	**g/L**
Sucrose	20.0
Calcium carbonate	2.0
Magnesium Sulphate	0.5
Dipotassium phosphate	1.0
Sodium chloride	0.5
Ferrous sulphate	0.1
Sodium molybdate	0.005
Agar	15.0
Final pH (at 25°C)	6.8 ± 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 2ºC-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 39.10 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely. Do not overheat.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control
Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.
Prepared Appearance: White to cream coloured, opalescent with a slight precipitated gel forms in petridishes.
Cultural Response: Cultural characteristics is observed after an incubation at 30°C-35°C for 7 days.

Organism (ATCC)	Growth
Rhizobium meliloti (9930)	Good
Rhizobium leguminosarum (10004)	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. Subba Rao N. S., 1977, In: Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi, Pages 254-255.
2. Jensen. H. L., 1942, Pro Line Soc. N.S.W., 57,205-212.
3. Ranganayaki S., Mohan C., Ally Z., 1981; 21 (8): 607-10.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201100020500	Dehydrated Culture Media	500 g