Azotobacter Broth (Dextrose)

Intended Use
Azotobacter Broth (Dextrose) is recommended for isolation, cultivation and identification of dextrose positive *Azotobacter* species from soil.

Summary
Azotobacters are gram-negative aerobic soil-dwelling bacteria and are usually motile, oval, or spherical bacteria, form thick-walled cysts, and may produce large quantities of capsular slime. They are typically polymorphic, i.e. of different sizes and shapes. Their size of the cells ranges from 2-10 µm long and 1-2 µm wide.
Azotobacter is a free-living nitrogen-fixing bacterium, found on neutral to alkaline soils, in aquatic environments, in the plant rhizosphere and phyllosphere. *Azotobacter* is known to be used as a biofertilizer in the cultivation of most crops. Plants needs nitrogen for its growth and hence *Azotobacter* fixes atmospheric nitrogen non-symbiotically. Therefore, all plants, trees, vegetables, get benefited. Beyond *Azotobacters* use as a model it has biotechnological applications like use for alginate production and for nitrogen production in batch fermentations.

Principle
This medium contains necessary nutrients for growth of *Azotobacter* species. For cultivation of glucose positive *Azotobacter* species from soil Azotabcter broth (Glucose) can be used. It is used for cultivation of dextrose positive *Azotobacter* species from soil. It can also be useful for maintenance of *Azotobacter* species by adding extra 1% dextrose to the medium containing agar i.e solid media as specified by the American Type Culture Collection.

Formula*

Ingredients	**g/L**
Dipotassium phosphate	1.0
Magnesium sulphate	0.2
Sodium chloride	0.2
Ferrous sulphate	0.005
Soil extract	5.0
Dextrose	10.0
Final pH (at 25°C)	7.6 ± 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 16.40 g in 1000 mL purified / distilled water.
2. Heat if necessary, to dissolve the medium completely. Dispense as desired.
3. Sterilize by autoclaving at 121°C (15psi) for 15 minutes as per validated cycle.
4. Slight precipitate may occur after autoclaving; however, it will not interfere with growth performance nor interfere with the Interpretation of Results.

Quality Control

Dehydrated Appearance: White coloured homogenous free flowing powder.
Prepared Appearance: Yellow coloured, clear to slightly opalescent solution with slight precipitate forms in tubes.
Cultural Response: Cultural characteristics observed after an incubation at 25°C -30°C for 24-48 hours.

Organism (ATCC)	**Growth**
Azotobacter beijerinckii (12981)	Good
Azotobacter nigricans (35009)	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. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	**Product description**	**Pack Size**
201010370500	Dehydrated Culture Media	500 g