



Technical Data

Azotobacter Broth (Glucose), Granulated

GM1721

Azotobacter Broth (Glucose), granulated is recommended for cultivation of Glucose positive *Azotobacter* species from soil.

Composition**

Ingredients	Gms / Litre
Dipotassium hydrogen phosphate	1.000
Magnesium sulphate	0.200
Sodium chloride	0.200
Ferrous sulphate	0.005
Soil extract	5.000
Glucose	10.000
Final pH (at 25°C)	7.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.4 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Slight precipitate may occur after autoclaving, however it will not interfere with growth performance nor interfere with the interpretation of results.

Principle And Interpretation

Azotobacter is a free-living nitrogen-fixing bacterium, which is known to be used as a biofertilizer in the cultivation of most crops. *Azotobacter* is found on neutral to alkaline soils, in aquatic environments, in the plant rhizosphere and phyllosphere. *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. Plant needs nitrogen for its growth and *Azotobacter* fixes atmospheric nitrogen non-symbiotically. Therefore, all plants, trees, vegetables, get benefited. Beyond *Azotobacter's* use as a model it has biotechnological applications like use for alginate production and for nitrogen production in batch fermentations. 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 (1). It is used for cultivation of glucose positive or mannitol positive *Azotobacter* species from soil. It can also be useful for maintenance of *Azotobacter* species by adding extra 1% glucose or 1% Mannitol to the medium containing agar i.e solid media as specified by the American Type Culture Collection (2).

Quality Control

Appearance

Off-white to beige coloured granular medium

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent solution with slight precipitate forms in tubes

Reaction

Reaction of 1.64% w/v aqueous solution at 25°C pH : 7.6±0.2

pH

7.40-7.80

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response <i>Azotobacter beijerinckii</i> ATCC 12981	50-100	luxuriant

Azotobacter nigricans ATCC 50-100 luxuriant
35009

Storage and Shelf Life

On receipt store between 10 - 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Pelczar M. Jr., 1957, Manual of Microbiological Methods.
2. ATCC Catalogue of Bacteria and Bacteriophages, 1992, 18th ed, American Type Culture Collection, Rockville, MD.

Revision : 00 / 2018

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.