



## Ashbys Glucose Agar

M713

Ashbys Glucose Agar is used for cultivation of *Azotobacter* species that can use glucose and atmospheric nitrogen as source of carbon and nitrogen respectively.

### Composition\*\*

| Ingredients           | Gms / Litre |
|-----------------------|-------------|
| Glucose               | 20.000      |
| Dipotassium phosphate | 0.200       |
| Magnesium sulphate    | 0.200       |
| Sodium chloride       | 0.200       |
| Potassium sulphate    | 0.100       |
| Calcium carbonate     | 5.000       |
| Agar                  | 15.000      |
| Final pH ( at 25°C)   | 7.4±0.2     |

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 40.7 grams in 1000 ml distilled water. Heat just to boiling. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

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

### Principle And Interpretation

*Azotobacter* is a genus of free-living diazotrophic bacteria which have the highest metabolic rate compared to any other microorganism.

*Azotobacters* are chemoorganotrophic, using sugars, alcohols and salts of organic acids for growth.

Ashbys Agar Media are formulated as described by Subba Rao (1). It is used for isolation of *Azotobacter* , a non-symbiotic nitrogen fixing bacteria which uses glucose as a carbon source and atmospheric nitrogen as nitrogen source. Besides the ability to fix atmospheric nitrogen, *Azotobacter* also synthesize biologically active substances which attributes to improving seed germination, plant growth etc. Dipotassium phosphate provides buffering to the system. Various essential ions required for promoting growth of *Azotobacter* are also available in this medium

### Quality Control

#### Appearance

White to cream homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity of prepared medium

Whitish, opalescent gel forms in Petri plates

#### Reaction

Reaction of 4.07% w/v aqueous solution at 25°C. pH : 7.4±0.2

#### pH

7.20-7.60

#### Cultural Response

M713: Cultural characteristics observed after an incubation at 35-37°C for upto 5 days.

#### Organism

*Azotobacter vinelandii*  
ATCC 478

#### Growth

good-luxuriant

### Storage and Shelf Life

Please refer disclaimer Overleaf.

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

## Reference

1. Subba Rao, 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., India.

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## Disclaimer :

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