

## Technical Information

### Ashbys Glucose Agar

#### Product Code: DM 1713

**Application:** 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

#### Principle & Interpretation

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

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

Ashbys Agar Media are formulated as described by Subba Rao <sup>(1)</sup>. 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.

#### Methodology

Suspend 40.7 grams of powder media in 1000 ml distilled water. Shake well & heat to boiling to dissolve the medium completely. 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.*

## Quality Control

### Physical 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 range** 7.20-7.60

### Cultural Response/Characteristics

DM1713: Cultural characteristics observed after an incubation at 35-37°C for upto 5 days.

### Organism

### Growth

*Azotobacter vinelandii* ATCC 478

good-luxuriant

## Storage and Shelf Life

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

## Further Reading

**Dried media:** Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

**Prepared Media:** 2-8<sup>o</sup> in sealable plastic bags for 2-5 days.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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