



Ashby's Sucrose Broth

M2024

Ashbys Sucrose Broth is used for growth and maintenance of *Azotobacter* species that can use Sucrose and atmospheric nitrogen as source of carbon and nitrogen respectively.

Composition**

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

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.7 grams in 1000 ml distilled water. Heat just to boiling. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

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 Medias are formulated as described by Subba Rao (1). It is used for isolation of *Azotobacter* , a non-symbiotic nitrogen fixing bacteria which uses sucrose 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

Colour and Clarity of prepared medium

Colourless, opalescent solution in tubes with precipitate

Reaction

Reaction of 2.57% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for upto 5 days.

Cultural Response

Organism

Growth

Cultural Response

Azotobacter chroococcum good-luxuriant
MTCC 7724

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 the label.

Please refer disclaimer Overleaf.

Reference

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

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