



Azotobacter Agar (Mannitol)

M372

Azotobacter Agar (Mannitol) is recommended for isolation, cultivation and identification of mannitol positive *Azotobacter* species from soil.

Composition**

Ingredients	Gms / Litre
Dipotassium phosphate	1.000
Magnesium sulphate	0.200
Sodium chloride	0.200
Ferrous sulphate	TRACE
Soil extract	5.000
Mannitol	20.000
Agar	15.000
Final pH (at 25°C)	8.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 41.4 grams in 1000 ml of distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If slight precipitate occurs after autoclaving, distribute it evenly before pouring into sterile Petri plates.

Principle And Interpretation

Bacteria of the family *Azotobacteraceae* constitute the majority of heterotrophic free-living nitrogen fixing bacteria (1). *Azotobacter* is a genus of free-living diazotrophic bacteria which have the highest metabolic rate compared to any other microorganisms. *Azotobacters* have generated a good deal of interest in the scientific community because of their unique mode of metabolism, by which they can fix nitrogen aerobically. Azotobacter Agar (Mannitol) is used for isolation and cultivation of mannitol positive *Azotobacter* species from soil (2). It is also useful for maintenance of *Azotobacter* species by adding extra 1% Mannitol to the medium as specified by the American Type Culture Collection (3).

Quality Control

Appearance

Off white to beige homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent gel with a slight precipitate forms in Petri plates.

Reaction

Reaction of 4.14% w/v aqueous solution at 25°C. pH : 8.3±0.2

pH

8.10-8.50

Cultural Response

M372: Cultural characteristics observed after an incubation at 25-30°C for 24-48 hours.

Organism

Growth

Cultural Response

Azotobacter beijerinckii good-luxuriant

ATCC 12981

Azotobacter nigricans ATCC good-luxuriant

35009

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.

Reference

1. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.
2. Pelczar M. Jr., 1957, Manual of Microbiological Methods.
3. ATCC Catalogue of Bacteria and Bacteriophages, 1992, 18th Ed, American Type Culture Collection, Rockville, MD.

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