

## TM 354 – AZOTOBACTER AGAR (MANNITOL)

### INTENDED USE

For isolation, cultivation and identification of mannitol positive *Azotobacter* species from soil.

### PRODUCT SUMMARY AND EXPLANATION

Bacteria of the family *Azotobacteraceae* constitute the majority of heterotrophic free-living nitrogen fixing bacteria. *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. 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.

### COMPOSITION

Ingredients	Gms / Ltr
Dipotassium hydrogen phosphate	1.000
Magnesium sulphate	0.200
Sodium chloride	0.200
Ferrous sulphate	Trace
Soil extract	5.000
Mannitol	20.000
Agar	15.000

### PRINCIPLE

The medium contains mannitol which acts as a source of energy. The salts present maintain the osmotic balance and agar solidifies the media.

### INSTRUCTION FOR USE

- Dissolve 41.4 grams in 1000 ml of purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- If slight precipitate occurs after autoclaving, distribute it evenly before pouring into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Off white to beige homogeneous free flowing powder.
Appearance of prepared medium	: Yellow coloured, clear to slightly opalescent gel with a slight precipitate forms in Petri plates.
pH (at 25°C)	: 8.3±0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Azotobacter beijerinckii</i>	12981	50-100	Good-luxuriant	>=50%	25-30°C	24-48 Hours
<i>Azotobacter nigricans</i>	35009	50-100	Good-luxuriant	>=50%	25-30°C	24-48 Hours

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

1. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol.
2. ATCC Catalogue of Bacteria and Bacteriophages, 1992, 18th Ed, American Type Culture Collection, Rockville, MD
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Pelczar M. Jr., 1957, Manual of Microbiological Methods.
5. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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