AZOTOBACTER AGAR (MANNITOL) TM 354

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

Composition

Ingredients	Gms/Ltr.
Mannitol	20.00
Agar	15.00
Soil extract	5.00
Dipotassium phosphate	1.00
Magnesium sulphate	0.20
Sodium chloride	0.20
Ferrous sulphate	Trace

***** Dehydrated powder, hygroscopic in nature, store in a dry place in tightly- sealed containers 25°C and protected from direct Sunlight.

Instructions for Use

Dissolve 41.4gms in 1000 ml of purified water or distilled water. Gently heat to dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. If slight precipitate occurs after autoclaving, distribute it evenly before pouring into sterile Petri plates.

Appearance: Yellow colour, clear to slightly opalescent gel
pH (at 25^0 C): 8.3 ± 0.2

Principle

AZOTOBACTER AGAR (MANNITOL) is used for the isolation, cultivation and identification of mannitol positive *Azotobacter* species from soil or heterotrophic free-living nitrogen fixing bacteria. Azotobacter is a genus of free-living diazotrophic bacteria which have the highest metabolic rate of any organisms. Azotobacter Agar (Mannitol) is used for isolation and cultivation of mannitol positive *Azotobacter* species from soil. The non-symbiotic nitrogen-fixing bacteria, *Azotobacter* and *Clostridia* species, have been found to be uncommonly abundant in Egyptian Nile valley soils. It was found that *Azotobacter* is not seriously affected by the long spells of summer fallow (sharaqi) when the soil becomes very dry while the atmospheric temperatures are high. In hot, arid countries it is a common practice to use sundried clay bricks for building. Soil was collected in a sterile sample bottle and examined bacteriologically. A knife tip (ca 0.5 g) of the powder was sprinkled over the surface of each of two nitrogen-deficient agar plates (Azotobacter medium containing 20g mannitol).

Interpretation

Cultural characteristics observed after inoculating (10^3CFU / ml), on incubation at 25 - 30°C for 24 - 48 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth
Azotobacter nigricans	35009	10^3	Luxuriant

References

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