



**ASHBY'S MANNITOL AGAR**

**TM 663**

**INTENDED USE**

For cultivation of *Azotobacter* species from soil.

**COMPOSITION**

Ingredients	Gm\Ltr.
Mannitol	20.000
Agar	15.000
Calcium carbonate	5.000
Sodium chloride	0.200
Magnesium sulphate	0.200
Dipotassium phosphate	0.200
Potassium sulphate	0.100

**PRODUCT SUMMARY AND EXPLANATION**

Ashby's Agar Media are formulated as described by Subba Rao. Ashby's Mannitol Agar is used for the cultivation of the *Azotobacters*. It is a free living diazotrophic bacterium which uses sugars, alcohols and salts of organic acids for growth. It is non-symbiotically that fix atmospheric nitrogen aerobically due to their unique mode of metabolism. Besides having the ability to fix atmospheric nitrogen, *Azotobacter* can also synthesize biologically active substances which improve seed germination and plant growth.

**PRINCIPLE**

Ashby's Mannitol Agar is composed of Mannitol which is used as carbon source and atmospheric nitrogen as nitrogen source for their growth. Dipotassium phosphate that provides buffering to the system. Calcium carbonate, Magnesium sulphate and Potassium sulphate provide the essential ions for growth and also maintain osmotic equilibrium of the medium.

**INSTRUCTION FOR USE**

1. Dissolve 40.7gms in 1000ml distilled water.
2. Gently heat to boiling with gentle swirling and dissolve the medium completely.
3. Sterilize by autoclaving at 15psi (121°C) for 15 minutes.
4. Cool to 45 - 50°C prior to dispense into sterile petri plates.



**QUALITY CONTROL SPECIFICATIONS**

**Appearance of Powder:** White to cream colour, homogeneous free flowing powder.

**Appearance of prepared medium:** Whitish opalescent gel.

**pH (at 25°C):** 7.4 ± 0.2.

**INTERPRETATION:**

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

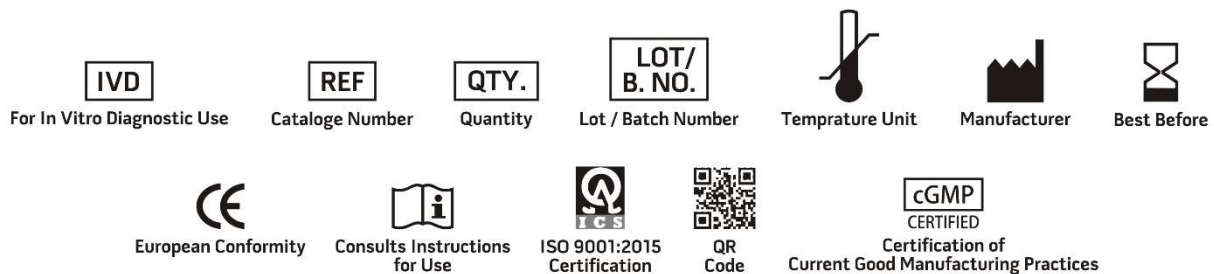
Microorganisms	ATCC	Inoculum (CFU/ml)	Growth
<i>Azotobacter nigricans</i>	35009	10 <sup>3</sup>	Good-luxuriant
<i>Azotobacter vinelandii</i>	478	10 <sup>3</sup>	Good-luxuriant

**STORAGE & STABILITY**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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.

**REFERENCES**

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



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