CM 20173 – ASHBY'S MANNITOL AGAR

INTENDED USE
For isolation of Azotobacter species from soil.

PRODUCT SUMMARY AND EXPLANATION
Azotobacter is a genusoffree-living diazotrophic bacteria which have the highest metabolic rate compared to any other microorganisms. Azotobacters are chemoorganotrophic, using sugars, alcohols and salts of organic acids for growth. Azotobacters can non-symbiotically fix atmospheric nitrogen aerobically due to their unique mode of metabolism. Besides the ability to fix atmospheric nitrogen, Azotobacter also synthesize biologically active substances, which attributes to improving seed germination, plant growth etc. Ashby's Mannitol Agar are formulated as described by Subba Rao. It is used for isolation of Azotobacter, a non-symbiotic nitrogen fixing bacteria which uses mannitol as a carbon source and atmospheric nitrogen as nitrogen source.

COMPOSITION

Ingredients	Gms / Ltr
Mannitol	20.000
Dipotassium hydrogen phosphate	0.200
Magnesium sulphate	0.200
Sodium chloride	0.200
Potassium sulphate	0.100
Calcium carbonate	5.000
Agar	15.000

PRINCIPLE
Dipotassium phosphate provides buffering to the medium. Various essential ions required for promoting growth of Azotobacter are also available in this medium.

INSTRUCTIONFOR USE
Dissolve 40.7 grams in 1000 ml purified / distilled water.
Heat just to boiling. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
Mix well and pour into sterile Petri plates.

Note: Due to presence of calcium carbonate, the prepared medium forms opalescent solution with white precipitate

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: White to cream homogeneous free flowing powder.
Appearance of prepared medium	: Whitish opalescent gel forms in Petri plates.
pH (at 25°C)	: 7.4±0.2

INTERPRETATION
Culturalcharacteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Azotobacter nigricans	35009	50-100	Good-luxuriant	>=50%	35-37°C	5 Days
Azotobacter vinelandii	478	50-100	Good-luxuriant	>=50%	35-37°C	5 Days

PACKAGING:

Inpacksizeof500 gm bottles.

STORAGE

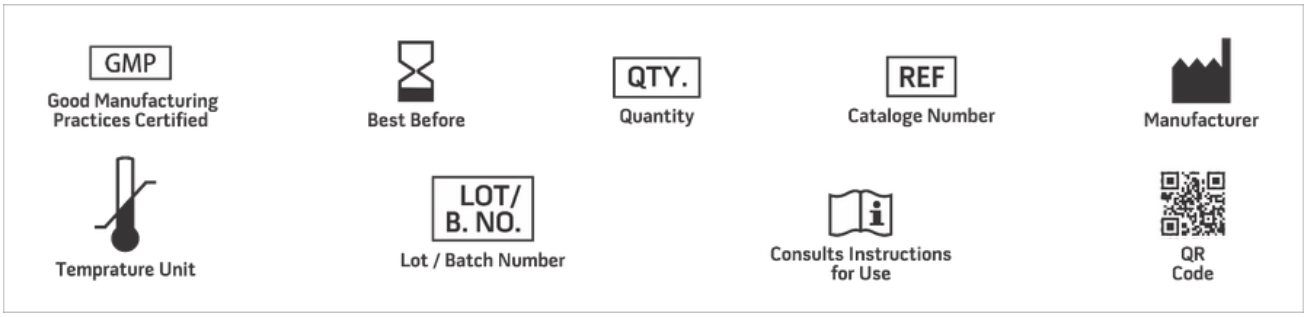
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided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

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

REFERENCES

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. 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. 1.
3. 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.

*For LabUse Only