

TM 067 – CITRATE AGAR

INTENDED USE

For cultivation of iron bacteria from soil.

PRODUCT SUMMARY AND EXPLANATION

The iron bacteria oxidize ferrous iron to ferric state, which precipitate as ferric hydroxide around cells. These bacteria are usually non-filamentous and spherical or rod shaped. Certain algae also transform ferrous salts to ferric state and deposit the precipitation around the colonies. The ferric hydroxide deposits give a brown or rust red colour to these organisms. Citrate Agar is recommended by Subba Rao for the isolation and detection of iron bacteria. A modification of the original formulation of Subba Rao is recommended by APHA for the isolation of heterotrophic iron-precipitating bacteria.

COMPOSITION

Ingredients	Gms / Ltr
Ammonium sulphate	0.500
Sodium nitrate	0.500
Magnesium sulphate	0.500
Dipotassium phosphate	0.500
Calcium chloride	0.200
Ferric ammonium citrate	10.000
Agar	15.000

PRINCIPLE

Dipotassium phosphate provides buffering to the medium. Magnesium sulphate, ammonium sulphate and calcium chloride are sources of ions that stimulate metabolism. Ferric ammonium citrate is used as a source of carbon and sodium nitrate acts as a source of nitrogen.

INSTRUCTION FOR USE

- Dissolve 27.2 grams in 1000 ml 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.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to greenish yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light amber coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 6.7±0.1

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Inhibited	0%	35-37°C	Upto 7 Days
<i>Sphaerotilus natans</i>	13338	50-100	Good-luxuriant	>=50%	35-37°C	Upto 7 Days

PACKAGING:

In pack size of 100 gm and 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. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
2. Clark F. M., Scott R. M. and Bone E., 1967, Heterotrophic, iron-precipitating bacteria, J. Am. Water Works Assoc., 59: 1036.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. 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.
5. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Balkstrasse 10, 49163 Moenster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

***For Lab Use Only**
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