



## Mn Agar Base

M771

Mn Agar Base is used for detection of *Leptothrix* species based on its ability to oxidize manganous ion

### Composition\*\*

Ingredients	Gms / Litre
Beef extract	1.000
Yeast extract	0.075
Manganous carbonate	2.000
Ferrous ammonium sulphate	0.150
Sodium citrate	0.150
Agar	12.000

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 15.37 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50-55°C and aseptically add filter-sterilized solution of cyanocobalamin to a final concentration of 0.005 mg/litre. Mix well and pour into sterile Petri plates.

### Principle And Interpretation

*Leptothrix* is a sheathed filamentous bacterium that can generally be found in different types of aquatic environments with sufficient organic matter. *Leptothrix* bacteria are known to be capable of oxidizing both iron (II) and manganese (II), unlike other sheathed bacteria. These belong to the group of nuisance organisms which have the ability to transform or deposit significant amount of iron, usually in the form of objectionable slimes. Iron bacteria (*Leptothrix*) may cause, or be associated with, fouling and plugging of wells. They also cause odour, taste, frothing, colour and increases turbidity in waters.

Mn Agar is formulated in accordance with APHA (1) and is used as a differential medium (2) based on the ability of *Leptothrix* species to oxidize manganous ion.

Beef extract and yeast extract supply the essential growth nutrients. *Leptothrix-Sphaerotilus* derive energy by oxidation of ferrous sulphate. Alternatively *Leptothrix* may be grown by direct plating on Mn Agar No. 2 (3).

### Quality Control

#### Appearance

White to cream homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.2% Agar gel.

#### Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel with a slight precipitate forms in Petri plates

#### Cultural Response

M771: Cultural characteristics observed after an incubation at 25-30°C for 24-48 hours.

Organism	Growth	Manganese oxidation
<i>Leptothrix discophora</i> ATCC 43182	luxuriant	positive reaction
<i>Sphaerotilus natans</i> ATCC 13338	good	negative reaction

### Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

### Reference

1. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A W., (Eds.),2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
2. Mulder E. G. and VanVeen W. L., 1963, Antonie Van Leeuwenhock (Holland), 29:121.
3. Ghiorse W. C., 1984, Ann. Rev. Microbiol., 38:515.

Revision : 2 / 2015

**Disclaimer :**

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.