Maintenance (SCY) Medium

M777

Maintenance (SCY) Medium is used for the maintenance of iron bacteria.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	0.910
Papaic digest of soyabean meal	0.030
Yeast extract	0.250
Sucrose	1.000
Sodium chloride	0.050
Dipotassium hydrogen phosphate	0.020
Thiamine	0.0004
Agar	10.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 12.26 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. Aseptically add filter-sterilized solution of cyanocobalamin to a final concentration of 0.01 mg/litre. Mix well and dispense as desired.

Principle And Interpretation

Iron bacteria are considered to be capable of metabolizing reduced iron present in their aqueous habitat and depositing it in the form of hydrated ferric oxide on or in their mucilaginous secretions. The large amount of brown slime so produced will impart a reddish tinge and an unpleasant odour to drinking water and may render the supply unsuitable for domestic or industrial purposes.

Maintenance (SCY) Medium is prepared in accordance with APHA (1) and is used for the maintenance of iron bacteria. Isolation and maintenance media have proven successful for identifying various groups of filamentous organisms including iron bacteria (2). Iron bacteria, especially those belonging to *Sphaerotilus-Leptothrix* group thrive in this media, which is too dilute to support proliferation of more rapidly growing organisms. Casein enzymic hydrolysate, yeast extract, papaic digest of soyabean meal and thiamine in the medium provide the necessary carbon, nitrogen, vitamins and minerals. Sucrose is the carbon source. Dipotassium phosphate provides buffering to the medium and sodium chloride provides the essential ions.

Prepare agar slants and aseptically pipette 3 ml sterile tap water on the slant surfaces. Inoculate and incubate at room temperature until turbid growth develops in liquid layer. The cells remain viable for 3 months at refrigeration temperature.

Quality Control

Appearance
White to cream homogeneous free flowing powder

Gelling
Firm, comparable with 1.0% Agar gel.

Colour and Clarity of prepared medium
Cream coloured clear to slightly opalescent gel forms in Petri plates or in tubes as slants

Reaction
Reaction of 1.2% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH
7.10-7.50

Cultural Response
M777: Cultural characteristics observed after an incubation at 25-30°C for 48-72 hours with added cyanocobalamin.

Organism	Growth
Leptothrix discophora ATCC 43182	luxuriant
Sphaerotilus natans ATCC 13338	luxuriant
Thiobacillus thioparus ATCC 8158	luxuriant

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. Van Veen W. L., 1973, Antonie Van Leeuwenhoek (Holland), 39:189.

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