Casein Yeast Magnesium Agar

M1248

Casein Yeast Magnesium Agar is recommended for use in the cultivation of recombinant strains of *Escherichia coli* .

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Sodium chloride	5.000
Magnesium sulphate	0.980
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 35.98 grams in 1000 ml distilled water. Heat gently to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired

Principle And Interpretation

Bacterial transformation is the process by which bacterial cells take up naked DNA molecules (1). Bacterial cells to be transformed are rendered competent by their growth and preparation in selected media usually containing Mg2 and/or Ca2+ ions (2). Casein Yeast Magnesium Agar is a modification of the formula described by Blattner et al (3) used for cultivating recombinant strains of *Escherichia coli* .

The medium constituents like casein enzymic hydrolysate and yeast extract supply the essential nutrients and cofactors required for excellent growth of recombinant strains of *Escherichia coli* . Sodium chloride maintains the osmotic balance of the medium. Magnesium sulphate is incorporated as a source of magnesium ion necessary in a variety of enzymatic reactions including DNA replication.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Amber coloured, clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 3.59% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
M1248: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Escherichia coli ATCC 23724	50-100	good-luxuriant	>=70%
Escherichia coli ATCC 53868	50-100	good-luxuriant	>=70%

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. Alcamo E. I., 2001, Fundamentals of Microbiology, 6th Ed., Jones and Bartlett Publishers.
2. Williams A. S., Slatko E. B., McCarrey R. J., 2007, Laboratory Investigations in Molecular Biology, Jones and Bartlett Publishers.
3. Blattner F. R., Williams B. G., Blechl A. E., et al, 1977, Science, 196:161

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