



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			
<i>Escherichia coli</i> ATCC 23724	50-100	good-luxuriant	≥70%
<i>Escherichia coli</i> 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

Revision : 1 / 2011



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.