



## Casein Yeast Magnesium Broth

M1247

Casein Yeast Magnesium Broth 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
Final pH ( at 25°C)	7.0±0.2

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

### Directions

Suspend 20.98 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.

### 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 Mg<sup>2+</sup> and/or Ca<sup>2+</sup> ions (2). Casein Yeast Magnesium Broth 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

Light yellow to beige homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Amber coloured, clear solution without any precipitate in tubes

#### Reaction

Reaction of 2.1% w/v aqueous solution at 25°C. pH : 7.0±0.2

#### pH

6.80-7.20

#### Cultural Response

M1247: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth
<b>Cultural Response</b>		
<i>Escherichia coli</i> ATCC 23724	50-100	good-luxuriant
<i>Escherichia coli</i> ATCC 53868	50-100	good-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. 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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