Product sheet

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO 3, w: EBSS | 820100a

Eagle's Minimum Essential Medium (EMEM) is one of the most widely used basal media for the cultivation of a broad range of mammalian cells, particularly adherent cell lines. Originally developed by Harry Eagle, this classic formulation contains the essential amino acids, vitamins, and inorganic salts required to support the growth of both primary cells and established cell lines under standard culture conditions.

This ready-to-use, sterile-filtered liquid formulation is supplemented with **Earle's Balanced Salt Solution (EBSS)**, **2 mM L-glutamine**, **D-glucose (1.0 g/L)**, and **2.2 g/L sodium bicarbonate ($NaHCO_3$)**, making it suitable for use in a CO_2-controlled incubator atmosphere (typically 5 % CO_2). The included **phenol red** acts as a pH indicator, allowing convenient visual monitoring of medium condition during cell culture.

Key Features

- Classic Eagle's MEM formulation with Earle's Balanced Salt Solution (EBSS)
- 2 mM L-glutamine included – ready for immediate use
- 2.2 g/L sodium bicarbonate – buffered for 5 % CO_2 incubation
- With D-glucose (1.0 g/L) as primary carbon source
- With phenol red as pH indicator
- Without HEPES and without sodium pyruvate
- Sterile-filtered liquid medium, ready to use
- pH 7.0 – 7.6

Typical Applications

EMEM supports the cultivation of a wide variety of mammalian cell lines, including HeLa, HEK 293, Vero, MRC-5, L-929, BHK-21, and many primary cells. Common applications include:

- Routine maintenance and expansion of adherent cell lines
- Virus propagation and vaccine production workflows
- Cytotoxicity and bioassay applications
- Transfection and protein expression studies
- Foundational research in cell biology and molecular biology

For optimal cell growth, EMEM is typically supplemented with **5–10 % fetal bovine serum (FBS)** and, depending on the cell line, with **non-essential amino acids (NEAA)** and **antibiotics** such as penicillin/streptomycin.

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Handling & Storage

Store the unopened bottle at **+2 °C to +8 °C**, protected from light. After opening, use under aseptic conditions. L-Glutamine in solution is subject to gradual degradation – we recommend using the medium within 4 weeks of opening for best performance, or supplementing with fresh L-glutamine prior to use if stored for longer periods. Allow the medium to warm to 37 °C before adding it to cells.

Quality

Manufactured under strict quality standards. Each batch is tested for sterility, pH, osmolality, and endotoxin levels to ensure consistent performance in cell culture applications.

Product Specifications

Specification	Detail
Product type	MEM
Product category	Cell culture media
Format	Liquid
Sterile	Yes
Size	500 ml
L-Glutamine	With L-glutamine (2 mM)
Glucose	With glucose (1.0 g/L)
Sodium bicarbonate	With $NaHCO_3$ (2.2 g/L)
HEPES	Without HEPES
Sodium pyruvate	Without sodium pyruvate
Phenol red	With phenol red
Salt solution	Earle’s Balanced Salt Solution (EBSS)
pH	7.0 – 7.6
Endotoxin content	Not specified
Storage	+2 °C to +8 °C

Formulation (Composition per Liter)

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO 3, w: EBSS | 820100a

Component	Concentration (mg/L)
Inorganic Salts	
Calcium chloride · $2H_2O$	265.00
Magnesium sulfate	97.72
Potassium chloride	400.00
Sodium chloride	6,800.00
Sodium dihydrogen phosphate, anhydrous	122.00
Sodium bicarbonate ($NaHCO_3$)	2,200.00
Amino Acids	
L-Arginine · HCl	126.00
L-Cystine · 2HCl	31.30
L-Glutamine	292.00
L-Histidine · HCl · H_2O	42.00
L-Isoleucine	52.00
L-Leucine	52.00
L-Lysine · HCl	72.50
L-Methionine	15.00
L-Phenylalanine	32.00
L-Threonine	48.00
L-Tryptophan	10.00
L-Tyrosine · 2Na · $2H_2O$	51.90
L-Valine	46.00
Vitamins	
D-Calcium pantothenate	1.00

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Component	Concentration (mg/L)
Choline chloride	1.00
Folic acid	1.00
myo-Inositol	2.00
Nicotinamide	1.00
Pyridoxal · HCl	1.00
Riboflavin	0.10
Thiamine · HCl	1.00
Other Components	
D(+)-Glucose	1,000.00
Phenol red	10.00