

**MEM with Earl's Salts and L-Glutamine**#GTC43.0500 (500ml)  
(FOR RESEARCH ONLY)

<b>Product:</b>	Filter sterilized MEM (Minimal Essential Medium) supplemented with Earl's Salts and with L-Glutamine. This formulation is with Phenol Red and without Sodium Pyruvate. Detailed formulation can be found on page 2.								
<b>Quantity:</b>	#GTC43.0500 comprises 500ml of MEM with Earl's Salts and L-Glutamine.								
<b>Applications:</b>	Cell Culture.								
<b>Appearance:</b>	Clear red/orange solution.								
<b>Specifications:</b>	<table><tr><td>pH:</td><td>7.0-7.6</td></tr><tr><td>Osmolality:</td><td>260-310 mOsm/kg</td></tr><tr><td>Sterility:</td><td>sterile</td></tr><tr><td>Endotoxin:</td><td>&lt;1.0 EU/ml</td></tr></table>	pH:	7.0-7.6	Osmolality:	260-310 mOsm/kg	Sterility:	sterile	Endotoxin:	<1.0 EU/ml
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Osmolality:	260-310 mOsm/kg								
Sterility:	sterile								
Endotoxin:	<1.0 EU/ml								
<b>Storage:</b>	Store at +4°C, protected from light, for up to 12 months. Once the product has been opened, store at +4°C and use within 1 or 2 months.								
<b>Shipment:</b>	Shipment is typically carried out at room temperature as this product can be kept at room temperature for up to 2 weeks without any problem.								

**Usage:** MEM (Minimal Essential Medium) supplemented with Earl's Salts (also known as EMEM), was originally developed by Harry Eagle in the 1950s as a modification of his earlier Basal Medium Eagle (BME). Earl's Salts include Calcium Chloride, Potassium Chloride, Magnesium Sulfate, Sodium Chloride and Sodium Phosphate as well as D-Glucose. MEM with Earl's Salts (and its modifications) is one of the most widely used synthetic cell culture media for supporting the growth of mammalian cells. It is used for the cultivation of numerous suspension and adherent cell lines including Hela, HEK 293, HEP-2, HT-1080, BHK-21, MCF-7, fibroblasts, and primary rat astrocytes.

MEM with Earl's Salts does not contain protein, lipids or growth factors, essential for cell proliferation, long-term viability and robust cell attachment. Hence, MEM with Earl's Salts requires supplementation, typically 10% FBS (Fetal Bovine Serum). To maintain physiological pH, MEM with Earl's Salts contains sodium bicarbonate and therefore must be kept in a controlled CO<sub>2</sub>-environment (5-10%). The pH indicator (phenol red) allows for monitoring pH changes from 6.2 (yellow) to 8.2 (red).

### Detailed Formulation:

**Table 1.** Composition of #GTC43 MEM with Earl's Salts and L-Glutamine.

Amino Acids	(mg/L)
L-Arginine HCl	126.00
L-Cystine 2HCl	31.30
L-Glutamine	292.00
L-Histidine HCl H <sub>2</sub> O	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 <sub>2</sub> O	51.90
L_Valine	46.00
Others	(mg/L)
D-Glucose	1000.00
Phenol Red (Na)	11.00

Vitamins	(mg/L)
Choline chloride	1.00
D-Calcium pantothenate	1.00
Folic Acid	1.00
Myo-Inositol	2.20
Nicotinamide	1.00
Pyridoxal HCl	1.00
Riboflavin	0.10
Thiamine HCl	1.00
Salts	(mg/L)
CaCl <sub>2</sub> .2H <sub>2</sub> O	265.00
KCl	400.00
MgSO <sub>4</sub>	97.67
NaCl	6800.00
NaHCO <sub>3</sub>	2200.00
NaH <sub>2</sub> PO <sub>4</sub>	122.00