

RPMI 1640 with L-Glutamine

#GTC41.0500 (500ml)

(FOR RESEARCH ONLY)



Product: Filter sterilized RPMI 1640 supplemented with L-Glutamine. This formulation is with Phenol Red and without HEPES. Detailed formulation can be found on page 2.

Quantity: #GTC42.0500 comprises 500ml of RPMI 1640 with L-Glutamine.

Applications: Cell Culture.

Appearance: Clear red/orange solution.

Specifications:

pH:	7.0-7.6
Osmolality:	280-320 mOsm/kg
Sterility:	sterile
Endotoxin:	<1.0 EU/ml

Storage: 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.

Shipment: 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: RPMI 1640 (RPMI stands for Roswell Park Memorial Institute, where this medium was developed in 1966 to support lymphoblastoid cells in suspension culture) is widely used in cell culture suitable for supporting growth of many types of cells, including HeLa, Jurkat, PC12, PBMC, MCF-7, astrocytes and carcinomas. RPMI 1640 differs from other media because it comprises the reducing agent glutathione and high concentrations of vitamins B12 and p-Amino Benzoic Acid (PABA), which are not present in EMEM or DMEM. There are several variations of RPMI 1640 commercially available and this particular formulation is with L-glutamine and phenol Red and without HEPES.

RPMI 1640 does not contain protein, lipids or growth factors, essential for cell proliferation, long-term viability and robust cell attachment. And albeit that some cell lines may grow serum-free under specific conditions, RPMI 1640 therefore requires supplementation, typically 10% FBS (Fetal Bovine Serum). To maintain physiological pH, RPMI contains sodium bicarbonate and therefore must be kept in a controlled CO₂-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 #GTC42 RPMI 1640 with L-Glutamine.

Amino Acids	(mg/L)	Vitamins	(mg/L)
Glycine	30.00	p-Amino Benzoic Acid	1.00
L-Arginine	200.00	D-Biotin	0.20
L-Asparagine H ₂ O	56.82	Choline chloride	3.00
L-Aspartic Acid	20.00	D-Calcium pantothenate	0.25
L-Cystine 2HCl	65.20	Folic Acid	1.00
L-Glutamic Acid	20.00	Myo-Inositol	35.00
L-Glutamine	300.00	Nicotinamide	1.00
L-Histidine HCl H ₂ O	20.27	Pyridoxal HCl	1.00
L-Hydroxy-L-Proline	20.00	Riboflavin	0.20
L-Isoleucine	50.00	Thiamine HCl	1.00
L-Leucine	50.00	Vitamin B12	0.005
L-Lysine HCl	40.00		
L-Methionine	15.00	Salts	(mg/L)
L-Phenylalanine	15.00	Ca(NO ₃) ₂ .4H ₂ O	100.00
L-Proline	20.00	KCl	400.00
L-Serine	30.00	MgSO ₄ .7H ₂ O	100.00
L-Threonine	20.00	NaCl	6000.00
L-Tryptophan	5.00	NaHCO ₃	2000.00
L-Tyrosine 2Na 2H ₂ O	28.83	Na ₂ HPO ₄	800.00
L_Valine	20.00		
Others	(mg/L)		
D-Glucose	2000.00		
L-Glutathione (red)	1.00		
Phenol Red (Na)	5.30		