

RPMI/1640 Medium

with L-Alanyl-L-Glutamine, with phenol red, with sodium bicarbonate, without HEPES, sterile-filtered, suitable for cell culture

Catalog number: LF-KR-ACE01105

Product Form: Clear solution at 1x

Product size: 500 mL

Sterility: Sterile-filtered

pH: 7.20~7.80

Endotoxin (LAL test): ≤ 5 EU/mL

Shipment: Ambient

Storage: Store at 2-8 °C for 12 months

Application: RPMI 1640 Medium was originally developed at Roswell Park Memorial Institute to culture human leukemic cells in suspension and as a monolayer. RPMI 1640 Medium has since been found suitable for a variety of mammalian cells, including HeLa, Jurkat, MCF-7, PC12, PBMC, astrocytes, and carcinomas.

Usage instruction: RPMI 1640 Medium is unique from other media because it contains the reducing agent glutathione and high concentrations of vitamins. RPMI 1640 Medium contains biotin, vitamin B12, and PABA, which are not found in Eagle's Minimal Essential Medium or Dulbecco's Modified Eagle Medium. In addition, the vitamins inositol and choline are present in very high concentrations. RPMI 1640 Medium contains no proteins, lipids, or growth factors. Therefore, RPMI 1640 Medium requires supplementation, commonly with 10% Fetal Bovine Serum (FBS). RPMI 1640 Medium uses a sodium bicarbonate buffer system (2.0 g/L), and therefore requires a 5–10% CO₂ environment to maintain physiological pH.

For scientific research use only, not for clinical diagnosis or treatment.

Formulation:

Components	Molecular Weight	Concentration (mg/L)	Concentration (mM)
Amino Acids			
Glycine	75	10	0.13333334
L-Arginine	174	200	1.1494253
L-Asparagine	132	50	0.37878788
L-Aspartic acid	133	20	0.15037593
L-Cystine 2HCl	313	65	0.20766774
L-Glutamic Acid	147	20	0.13605443
L-Glutamine	146	300	2.0547945
L-Histidine	155	15	0.09677419
L-Hydroxyproline	131	20	0.15267175
L-Isoleucine	131	50	0.3816794
L-Leucine	131	50	0.3816794
L-Lysine hydrochloride	183	40	0.21857923
L-Methionine	149	15	0.10067114
L-Phenylalanine	165	15	0.09090909
L-Proline	115	20	0.17391305
L-Serine	105	30	0.2857143
L-Threonine	119	20	0.16806723
L-Tryptophan	204	5	0.0245098
L-Tyrosine disodium salt dihydrate	261	29	0.11111111
L-Valine	117	20	0.17094018
Vitamins			
Biotin	244	0.2	8.20E-04
Choline chloride	140	3	0.02142857
D-Calcium pantothenate	477	0.25	5.24E-04
Folic Acid	441	1	0.00226757
Niacinamide	122	1	0.00819672
Para-Aminobenzoic Acid	137	1	0.00729927
Pyridoxine hydrochloride	206	1	0.00485437
Riboflavin	376	0.2	5.32E-04
Thiamine hydrochloride	337	1	0.00296736
Vitamin B12	1355	0.005	3.69E-06
i-Inositol	180	35	0.19444445
Inorganic Salts			
Calcium nitrate (Ca(NO3)2 4H2O)	236	100	0.42372882
Magnesium Sulfate (MgSO4) (anhyd.)	120	48.84	0.407

Potassium Chloride (KCl)	75	400	5.3333335
Sodium Bicarbonate (NaHCO ₃)	84	2000	23.809525
Sodium Chloride (NaCl)	58	6000	103.44827
Sodium Phosphate dibasic (Na ₂ HPO ₄) anhydrous	142	800	5.633803
Other Components			
D-Glucose (Dextrose)	180	2000	11.111111
Glutathione (reduced)	307	1	0.00325733
Phenol Red	376.4	5	0.01328374