



RPMI 1640 (1X Solution) without L-glutamine, pH 6.9 to 7.2

Description: This medium was originally developed by Moore and his colleagues at Roswell Park Memorial Institute (RPMI). It was based on the RPMI 1630 line of media which utilized a bicarbonate buffering system and alterations in the amounts of amino acids and vitamins. RPMI has successfully been used for the cultivation of normal human and neoplastic leukocytes. It is now a popular general purpose medium when properly supplemented. A Dutch Modification of RPMI 1640 is also available through MP. The Dutch Modification contains 6400 mg/l sodium chloride instead of 6000 mg/l; contains 1000 mg/l sodium bicarbonate instead of 2000 mg/l; and contains 20 mM HEPES.

Formulation:

Component	mg/l	Mol. Wt.	Mol. (mM)
Amino Acids			
L-Arginine HCl	241.90000	210.7	1.15
L-Asparagine H ₂ O	56.82000	150.1	0.38
L-Aspartic Acid	20.00000	133.1	0.15
L-Cystine 2HCl	65.18000	313.2	0.21
L-Glutamic Acid	20.00000	147.1	0.14
Glycine	10.00000	75.07	0.13
L-Histidine HCl H ₂ O	20.26000	209.6	0.10
L-Hydroxyproline	20.00000	131.1	0.15
L-Isoleucine	50.00000	131.2	0.38
L-Leucine	50.00000	131.2	0.38
L-Lysine HCl	40.00000	182.6	0.22
L-Methionine	15.00000	149.2	0.10
L-Phenylalanine	15.00000	165.2	0.09
L-Proline	20.00000	115.1	0.17
L-Serine	30.00000	105.1	0.29
L-Threonine	20.00000	119.1	0.17
L-Tryptophan	5.00000	204.2	0.02
L-Tyrosine HCl	24.02000	217.7	0.11

L-Valine	20.00000	117.1	0.17
Vitamins			
Biotin	0.20000	244.3	0.0008
Choline Chloride	3.00000	139.6	0.0215
D-Calcium Pantothenate	0.25000	238.3	0.0010
Folic Acid	1.00000	441.4	0.0023
myo-Inositol	35.00000	180.2	0.1942
Nicotinamide	1.00000	122.13	0.0082
para-Aminobenzoic Acid	1.00000	137.1	0.0073
Pyridoxine HCl	1.00000	205.6	0.0049
Riboflavin	0.20000	376.4	0.0005
Thiamine HCl	1.00000	337.3	0.0030
Vitamin B12	0.00500	1355.4	0.000004
Inorganic Salts			
Calcium Nitrate [Ca(NO ₃) ₂ 4H ₂ O] Tetrahydrate	100.00000	236.2	0.42
Magnesium Sulfate [MgSO ₄]	48.84000	120.4	0.41
Potassium Chloride [KCl]	400.00000	74.55	5.37
Sodium Bicarbonate [NaHCO ₃]	2000.00000	84.01	23.81
Sodium Chloride [NaCl]	6000.00000	58.44	102.67
Sodium Phosphate Dibasic [Na ₂ HPO ₄]	800.70000	141.96	5.64
Other			
Dextrose	2000.00000	180.2	11.10
Glutathione (reduced)	1.00000	307.33	0.0033
Phenol Red Sodium Salt	5.00000	376.4	0.01
Add			
L-glutamine Powder (mg/L)		300.0000	
L-glutamine 200 mM Solution (mL/L)		10.2700	

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