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TECHNICAL INFORMATION

Catalog Number: 1060120, 1060121, 1060124, 1060122

RPMI 1640 Medium, powder, with L-glutamine, without sodium bicarbonate

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:

Components		Mol. Wt.	Mol. (mM)
Amino Acids	mg/L		
L-Arginine HCl		210.7	1.15
L-Asparagine H ₂ O	200.000	150.1	0.38
L-Aspartic Acid	56.820	133.1	0.15
L-Cystine 2HCl	20.000	313.2	0.21
L-Glutamic Acid	65.200	147.1	0.14
L-Glutamine	20.000	146.1	2.05
Glycine	300.000	75.07	0.13
L-Histidine	10.000	155.2	0.10
L-Hydroxyproline	15.000	131.1	0.15
L-Isoleucine	20.000	131.2	0.38
L-Leucine	50.000	131.2	0.38
L-Lysine HCl	50.000	182.6	0.22
L-Methionine	40.000	149.2	0.10
L-Phenylalanine	15.000	165.2	0.09
L-Proline	15.000	115.1	0.17
L-Serine	20.000	105.1	0.29
L-Threonine	30.000	119.1	0.17
L-Tryptophan	20.000	204.2	0.02
	5.000		

L-Tyrosine 2Na 2H ₂ O		261.2	0.11
L-Valine	28.830	117.1	0.17
	20.000		
Vitamins			
Biotin		244.3	0.0008
Choline Chloride	0.200	139.6	0.0215
D-Calcium Pantothenate	3.000	238.3	0.0010
Folic Acid	0.250	441.4	0.0023
myo-Inositol	1.000	180.2	0.1942
Nicotinamide	35.000	122.13	0.0082
para-Aminobenzoic Acid	1.000	137.1	0.0073
Pyridoxine HCl	1.000	205.6	0.0049
Riboflavin	1.000	376.4	0.0005
Thiamine HCl	0.200	337.3	0.0030
Vitamin B12	1.000	1355.4	0.000004
	0.005		
Inorganic Salts			
Calcium Nitrate [Ca(NO ₃) ₂ 4H ₂ O] Tetrahydrate		236.2	0.42
Magnesium Sulfate [MgSO ₄]	100.000	120.4	0.41
Potassium Chloride [KCl]	48.800	74.55	5.37
Sodium Bicarbonate [NaHCO ₃]	400.000	84.01	0.00
Sodium Chloride [NaCl]	0.000	58.44	102.67
Sodium Phosphate Dibasic [Na ₂ HPO ₄]	6000.000	141.96	5.64
	800.700		
Other			
Dextrose		180.2	11.10
Glutathione (reduced)	2000.000	307.33	0.0033
Phenol Red Sodium Salt	1.000	376.4	0.01
	5.000		
Add			
NaHCO ₃ Powder (g/L)		2.00	
NaHCO ₃ 7.5% Solution (mL/L)		26.72	

Availability:

1X Liquid:

Catalog Number	Description	Size
1260249	1X RPMI 1640 without L-glutamine, pH 6.9-7.2	100 ml
1260254		500 ml
1260354	1X RPMI 1640 with L-glutamine	500 ml
1260554	1X RPMI 1640 with 25 mM HEPES, 4750 mg/l sodium bicarbonate, without L-glutamine	500 ml

1260654	1X RPMI 1640 with 25 mM HEPES, 4750 mg/l sodium chloride, L-glutamine	500 ml
1260449 1260454	1X RPMI 1640 with 25 mM HEPES, without sodium bicarbonate, L-glutamine	100 ml 500 ml
1265254	1X RPMI 1640 without L-glutamine, pH 7.2-7.4	500 ml
1260954	1X RPMI 1640 Dutch Modification without L-glutamine	500 ml
1265349 1265354	1X RPMI 1640 without L-glutamine, myo-inositol	100 ml 500 ml
1629149	1X RPMI 1640 without L-glutamine, L-leucine	100 ml
1629249 1629254	1X RPMI 1640 without L-glutamine, L-methionine	100 ml 500 ml
1646449 1646454	1X RPMI 1640 without L-glutamine, cystine, methionine, cysteine	100 ml 500 ml
1646754	1X RPMI 1640 without L-glutamine, phenol red	500 ml
1646854	1X RPMI 1640 without L-glutamine, dextrose	500 ml
1629749 1629754	1X RPMI 1640 with 850 mg/l sodium bicarbonate, without L-glutamine, phosphate	100 ml 500 ml

10X Liquid:

Catalog Number	Description	Size
1460054	10X RPMI 1640 without L-glutamine, sodium bicarbonate	500 ml

Powders:

Catalog Number	Description	Size
1060120 1060122 1060124	RPMI 1640 with L-glutamine without sodium bicarbonate	10 x 1 liter 1 x 10 liter 1 x 50 liter
1060222 1060224	RPMI 1640 with L-glutamine without sodium bicarbonate, phenol red	1 x 10 liter 1 x 50 liter
1060520 1060522	RPMI 1640 with L-glutamine, 25 mM HEPES, without sodium bicarbonate	10 x 1 liter 1 x 10 liter

References:

- Moore, G.E., et. al., "Culture of Normal Human Leukoctyes." *JAMA*, v. **199**, 519-524 (1967).
- Moore, G.E. and Woods, L.K., "Culture media for human cells RPMI 1603, RPMI 1634, RPMI 1640 and GEM 1717." *Tissue Culture Association Manual*, v. **3**, 503-508 (1976).
- Moore, G.E., Gerner, R.E. and Minowada, J., "Studies of normal and neoplastic cells. Studies of normal and neoplastic human hematopoietic cells in vitro." *Twenty-first Annual Symposium on Fundamental Cancer Research*, February 1967, p. 41-43.
- Moore, G.E. and Kitamura, H., "Cell line derived from patient with myeloma." *NY State Journal of Medicine*, v. **68**, 2054-2060 (1968).