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## TECHNICAL INFORMATION

Catalog Number: 1260326, 1260349, 1260354

### RPMI 1640 (1X Solution) with L-glutamine with 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:

<i>Component</i>	<i>mg/l</i>	<i>Mol. Wt.</i>	<i>Mol. (mM)</i>
<b>Amino Acids</b>			
L-Arginine HCl	241.90000	210.7	1.15
L-Asparagine H <sub>2</sub> 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
L-Glutamine	300.00000	146.1	2.05
Glycine	10.00000	75.07	0.13
L-Histidine HCl H <sub>2</sub> 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
<b>Vitamins</b>			
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
<b>Inorganic Salts</b>			
Calcium Nitrate [Ca(NO <sub>3</sub> ) <sub>2</sub> 4H <sub>2</sub> O] Tetrahydrate	100.00000	236.2	0.42
Magnesium Sulfate [MgSO <sub>4</sub> ]	48.84000	120.4	0.41
Potassium Chloride [KCl]	400.00000	74.55	5.37
Sodium Bicarbonate [NaHCO <sub>3</sub> ]	2000.00000	84.01	23.81
Sodium Chloride [NaCl]	6000.00000	58.44	102.67
Sodium Phosphate Dibasic [Na <sub>2</sub> HPO <sub>4</sub> ]	800.70000	141.96	5.64
<b>Other</b>			
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

**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	1X RPMI 1640 with 25 mM HEPES, without sodium bicarbonate, L-glutamine	100 ml
1260454		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).