

Product Information

RPMI-1640 Media

RPMI-1640 medium was developed by Moore et al., at Roswell Park Memorial Institute, hence the acronym RPMI. The formulation is based on the RPMI-1630 series of media utilizing a bicarbonate buffering system and alterations in the amounts of amino acids and vitamins.

RPMI-1640 medium has been used for the culture of human normal and neoplastic leukocytes. RPMI-1640 when properly supplemented, has demonstrated wide applicability for supporting growth of many types of cell cultures, including fresh human lymphocytes in the 72-hour phytohemagglutinin (PHA) stimulation assay.

COMPONENT	R0883 [1×] g/L	R1145 [10×] g/L	R1383 [powder] g/L	R1780 [1×] g/L	R2405 [1×] g/L	R6504 [powder] g/L	R8758 [1×] g/L
Inorganic Salts							
Ca(NO ₃) ₂ • 4H ₂ O	0.1	1	0.1	0.1	0.1	0.1	0.1
MgSO ₄ (anhydrous)	0.04884	0.4884	0.04884	0.04884	0.04884	0.04884	0.04884
KCl	0.4	4	0.4	0.4	0.4	0.4	0.4
NaHCO ₃	2	–	–	2	2	–	2
NaCl	6	60	6	6	6	6	6
Na ₂ HPO ₄ (Anhydrous)	0.8	8	0.8	0.8	0.8	0.8	0.8
Amino Acids							
L-Alanyl-L-Glutamine	–	–	–	–	0.4344	–	–
L-Arginine • HCl	0.2	2	0.2	–	0.2	0.2	0.2
L-Asparagine • H ₂ O	–	–	0.05	–	–	0.05	–
L-Asparagine	0.05	0.05	–	0.05	0.05	–	0.05
L-Aspartic Acid	0.02	0.2	0.02	0.02	0.02	0.02	0.02
L-Cystine • 2HCl • H ₂ O	0.0652	0.652	0.0652	0.0652	0.0652	0.0652	0.0652
L-Glutamic Acid	0.02	0.2	0.02	0.02	0.02	0.02	0.02
L-Glutamine	–	–	0.3	0.3	–	0.3	0.3
Glycine	0.01	0.1	0.01	0.01	0.01	0.01	0.01
L-Histidine • HCl • H ₂ O	0.015	0.15	0.015	0.015	0.015	0.015	0.015
Hydroxy-L-Proline	0.02	0.2	0.02	0.02	0.02	0.02	0.02
L-Isoleucine	0.05	0.5	0.05	0.05	0.05	0.05	0.05
L-Leucine	0.05	0.5	0.05	–	0.05	0.05	0.05
L-Lysine • HCl	0.04	0.4	0.04	–	0.04	0.04	0.04
L-Methionine	0.015	0.15	0.015	0.015	0.015	0.015	0.015
L-Phenylalanine	0.015	0.15	0.015	0.015	0.015	0.015	0.015
L-Proline	0.02	0.2	0.02	0.02	0.02	0.02	0.02
L-Serine	0.03	0.3	0.03	0.03	0.03	0.03	0.03
L-Threonine	0.02	0.2	0.02	0.02	0.02	0.02	0.02
L-Tryptophan	0.005	0.05	0.005	0.005	0.005	0.005	0.005
L-Tyrosine • 2Na • 2H ₂ O	–	–	0.02883	–	–	0.02883	–
L-Tyrosine	0.02184	0.2184	–	0.02184	0.02184	–	0.02184
L-Valine	0.02	0.2	0.02	0.02	0.02	0.02	0.02
Vitamins							
D-Biotin	0.0002	0.002	0.0002	0.0002	0.0002	0.0002	0.0002
Choline Chloride	0.003	0.03	0.003	0.003	0.003	0.003	0.003
Folic Acid	0.001	–	0.001	0.001	0.001	0.001	0.001
<i>myo</i> -Inositol	0.035	0.35	0.035	0.035	0.035	0.035	0.035
Niacinamide	0.001	0.01	0.001	0.001	0.001	0.001	0.001
<i>p</i> -Aminobenzoic Acid	0.001	0.01	0.001	0.001	0.001	0.001	0.001
D-Pantothenic Acid • ½Ca	0.00025	0.0025	0.00025	0.00025	0.00025	0.00025	0.00025
Pyridoxine • HCl	0.001	0.01	0.001	0.001	0.001	0.001	0.001
Riboflavin	0.0002	0.002	0.0002	0.0002	0.0002	0.0002	0.0002
Thiamine • HCl	0.001	0.01	0.001	0.001	0.001	0.001	0.001
Vitamin B ₁₂	0.000005	0.00005	0.000005	0.000005	0.000005	0.000005	0.000005
Other							
D-Glucose	2	20	–	2	2	2	2
Glutathione (reduced)	0.001	0.01	0.001	0.001	0.001	0.001	0.001
Phenol Red • Na	0.0053	0.05	0.0053	–	0.0053	0.0053	0.0053
ADD							
L-Glutamine	0.3	0.3 at 1×	–	–	–	–	–
NaHCO ₃	–	2.0 at 1×	2	–	–	2	–

References

1. Moore, G.E., et al., Culture of Normal Human Leukocytes. J.A.M.A., **199**, 519-524 (1967).
2. 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, **3**, 503-508 (1976).
3. Moore, G.E., et al., 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, 41-63 (1967).
4. Moore, G.E., and Kitamura, H., Cell Line Derived from Patient with Myeloma. NY State Journal of Medicine, **68**, 2054-2060 (1968).

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