

RPMI 1640 liquid and powder medium

RPMI 1640 medium was developed by Moore and his co-workers at Roswell Park Memorial Institute in 1966. Originally designed for the growth of human leukaemia cells in monolayer or suspension cultures using a serum supplement, it has since demonstrated universal use in the growth, and support of a broad spectrum of mammalian, and

hybrid cells as well as in hybridoma fusion protocols.

For peripheral blood lymphocytes a mixture of 80 % RPMI 1640 and 20 % FBS is often used, and for murine myeloma cells a mixture of 85 % RPMI and 15 % FBS.

| Product | Cat. No. | Unit |
|--|----------------------|------------------|
| RPMI 1640 liquid medium with 2.0 g/l NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1213 F 1215 | 100 ml 500 ml |
| RPMI 1640 liquid medium with stable glutamine with 2.0 g/l NaHCO ₃ Storage temperature: +2 – +8 °C | FG 1215 | 500 ml |
| RPMI 1640 (10x) liquid medium without NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1225 | 500 ml |
| RPMI 1640 liquid medium with 20 mM HEPES without NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1235 | 500 ml |
| RPMI 1640 liquid medium with 20 mM HEPES, with stable glutamine without NaHCO ₃ Storage temperature: +2 – +8 °C | FG 1235 | 500 ml |
| RPMI 1640 liquid medium with 40 mg/l folic acid with 2.0 g/l NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1255 | 500 ml |
| RPMI 1640 liquid medium without phenol red with 2.0 g/l NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1275 | 500 ml |
| RPMI 1640* liquid medium with stable glutamine with 2.0 g/l NaHCO ₃ , with 25 mM HEPES, with 5.5 g/l NaCl, with 5 mg/l phenol red Storage temperature: +2 – +8 °C | FG 1383* FG 1385* | 100 ml 500 ml |
| RPMI 1640 liquid medium with 5 mg/l phenol red with 2.0 g/l NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1295 | 500 ml |
| VLE-RPMI 1640 (Very Low Endotoxin) liquid medium with 2.0 g/l NaHCO ₃ , without L-glutamine Storage temperature: +2 – +8 °C | F 1415 | 500 ml |

| Product | Cat. No. | Unit |
|---|---|----------------------------|
| VLE-RPMI 1640 (Very Low Endotoxin) liquid medium with stable glutamine with 2.0 g/l NaHCO ₃ Storage temperature: +2 – +8 °C | FG 1415 | 500 ml |
| RPMI 1640 powder medium without NaHCO ₃ , with L-glutamine Storage temperature: +2 – +8 °C | T 121-01 T 121-05 T 121-10 T 121-50 | 1 l 5 l 10 l 50 l |
| RPMI 1640 powder medium without phenol red without NaHCO ₃ , with L-glutamine Storage temperature: +2 – +8 °C | This medium is also available as a standard in powder with a minimum order of 500 litres; pack sizes are 10 or 50 litres. | |

* This RPMI 1640 modification is well suited for the cultivation of peripheral human lymphocytes. Osmolality approx. 290 mOsm/kg water.

Formulation

Different from the original formulation, only 0.05 mg/l riboflavin is used to avoid negative photo oxidative effects.

Tab. 31: Composition of the RPMI 1640 medium

| Substance | Concentration (mg/ l) | Substance | Concentration (mg/ l) |
|--|-----------------------|-------------------------|-----------------------|
| NaCl | 6000 | L-methionine | 15 |
| KCl | 400 | L-phenylalanine | 15 |
| Na ₂ HPO ₄ ·7H ₂ O | 1512 | L-proline | 20 |
| MgSO ₄ ·7H ₂ O | 100 | L-serine | 30 |
| Ca(NO ₃) ₂ ·4H ₂ O | 100 | L-threonine | 20 |
| D-glucose | 2000 | L-tryptophane | 5 |
| Phenol red* | 5 | L-tyrosine | 20 |
| NaHCO ₃ | 2000 | L-valine | 20 |
| L-arginine | 200 | Glutathione | 1 |
| L-asparagine | 50 | Biotin | 0.2 |
| L-aspartic acid | 20 | Vitamin B ₁₂ | 0.005 |
| L-cystine | 50 | D-Ca-pantothenate | 0.25 |
| L-glutamine | 300 | Cholin chloride | 3 |
| L-glutamic acid | 20 | Folic acid | 1 |
| Glycine | 10 | Myo-inositol | 35 |
| L-histidine | 15 | Nicotinamid | 1 |
| L-hydroxyproline | 20 | p-amino benzoic acid | 1 |
| L-isoleucine | 50 | Pyridoxin-HCl | 1 |
| L-leucine | 50 | Riboflavin | 0.2 |
| L-lysine-HCl | 40 | ThiamineHCl | 1 |

* (1x) liquid medium contains 10 mg/l phenol red

References:

1. Moore, G.E. et al; *JAMA* **199**, 519 [1967]
2. Moore, G.E. et al; *TCA Manual* **3**, 503 [1976]
3. Moore, G.E. et al; *XXI, Ann. Symp. Fand. Canc. Res.* **Feb. 41** [1967]
4. Moore, G.E. et al; *NY. State J. Med.* **68**, 2054 [1968]
5. Ham, R.G. et al; *Meth. Enzymol.* **53**, 44 [1979]