

# RPMI 1640 (L-Glutamine, Phenol Red, no HEPES)

## 1 Components

Component	HY-K3004-500 mL	HY-K3004-1 L	HY-K3004-3 L
RPMI 1640 (L-Glutamine, Phenol Red, no HEPES)	500 mL	500 mL × 2	500 mL × 6

## 2 Introduction

RPMI 1640 contains glutathione and high concentration of vitamins, also contains biotin, vitamin B12, 4-Aminobenzoic acid (PABA) not found in MEM and DMEM, as well as high concentration of inositol and choline chloride. Cell lines successfully cultured in RPMI 1640 include Hela, Jurkat, MCF-7, PC12, Peripheral blood mononuclear cell (PBMC), Astrocyte and Cancer cells.

MCE offers a range of different formulations of DMEM medium for different cell culture applications.

## 3 Characteristics

With (+)	Without (-)
Glucose (2 g/L)	Sodium Pyruvate
L-Glutamine (0.3 g/L)	HEPES
Phenol Red (5 mg/L)	

## 4 General Protocol

RPMI 1640 requires a 5 - 10% CO<sub>2</sub> environment to maintain physiological pH.

## 5 Storage

Store at 2-8°C for 1 year.

Protect from light.

## 6 Precautions

1. RPMI 1640 contains no proteins, lipids, or growth factors. Therefore, it requires supplementation, commonly with 10% Fetal Bovine Serum (FBS).
2. This product is for R&D use only, not for drug, household, or other uses.
3. For your safety and health, please wear a lab coat and disposable gloves to operate.

## 7 Appendix: The formula table of medium

Components	Molecular	Concentration (mg/L)	mM
<b>Amino Acids</b>			
Glycine	75	10	0.1333333
L-Arginine	174	200	1.1494253
L-Cystine 2HCl	313	65	0.201278
L-Aspartic acid	133	20	0.1503759
L-Asparagine	132	50	0.3787879
L-Glutamic Acid	147	20	0.1360544
L-Glutamine	146	300	2.0547945
L-Histidine	155	15	0.0967742
L-Hydroxyproline	131	20	0.1526718
L-Isoleucine	131	50	0.3816794
L-Leucine	131	50	0.3816794
L-Lysine hydrochloride	183	40	0.2185792
L-Methionine	149	15	0.1006711
L-Phenylalanine	165	15	0.0909091
L-Proline	115	20	0.1739131
L-Serine	105	30	0.2857143
L-Threonine	119	20	0.1680672
L-Tryptophan	204	5	0.0245098
L-Tyrosine disodium salt dihydrate	261	29	0.1111111
L-Valine	117	20	0.1709402
<b>Inorganic Salts</b>			
Calcium nitrate (Ca(NO <sub>3</sub> ) <sub>2</sub> ·4H <sub>2</sub> O)	236	100	0.4237288
Magnesium Sulfate (MgSO <sub>4</sub> ) (anhyd)	120	48.84	0.407
Potassium Chloride (KCl)	75	400	5.3333335
Sodium Chloride (NaCl)	58	6000	103.44827
Sodium Phosphate dibasic (Na <sub>2</sub> HPO <sub>4</sub> ·7H <sub>2</sub> O)	268	800	2.9850745
Sodium Bicarbonate (NaHCO <sub>3</sub> )	84	2000	23.8
<b>Vitamins</b>			
Biotin	244	0.2	8.20E-04
Choline chloride	140	3	0.0214286
D-Calcium pantothenate	477	0.25	5.24E-04
Folic Acid	441	1	0.0022676
Niacinamide	122	1	0.0081967
Para-Aminobenzoic Ac	137	1	0.00729927
Pyridoxine hydrochloride	206	1	0.0048544
Riboflavin	376	0.2	5.32E-04
Thiamine hydrochloride	337	1	0.0029674
Vitamin B12	1355	0.005	3.69E-06
i-Inositol	180	35	0.1944445

Components	Molecular	Concentration (mg/L)	mM
<b>Other Components</b>			
D-Glucose (Dextrose)	180	2000	11.111111
Glutathione (reduced)	307	1	0.0032573
Phenol Red	376.4	5	0.0132837