RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3

820700a

RPMI 1640 Medium, also known as RPMI medium, is a highly versatile cell culture medium widely utilized in biological research to cultivate various mammalian cells. Developed by George E. Moore, Robert E. Gerner, and H. Addison Franklin in 1966 at the renowned Roswell Park Comprehensive Cancer Center, this medium derived its name from its origin at the Roswell Park Memorial Institute (RPMI).

Initially designed to support the growth of human leukemic cells in both suspension and monolayer cultures, RPMI 1640 Medium has evolved through modifications by researchers and commercial suppliers to become suitable for a diverse range of mammalian cells. It is exceptionally compatible with cell lines such as HeLa, Jurkat, MCF-7, PC12, PBMC, astrocytes, and carcinomas.

RPMI 1640 Medium stands apart from other cell culture media due to its unique composition. It contains a substantial amount of phosphate, amino acids, and vitamins. Notably, it encompasses biotin, vitamin B12, and PABA, absent in Eagle's Minimal Essential Medium or Dulbecco's Modified Eagle Medium. Moreover, RPMI 1640 Medium exhibits significantly elevated concentrations of vitamins inositol and choline. However, it does not contain proteins, lipids, or growth factors. Consequently, supplementation with 10% Fetal Bovine Serum (FBS) is commonly required to provide optimal conditions for cell growth.

The buffering system of RPMI 1640 Medium relies on sodium bicarbonate and necessitates a 5-10% CO2 environment to maintain a physiologically appropriate pH. The inclusion of the reducing agent glutathione further distinguishes this medium from others.

Quality Control

Sterile-filtered

Storage and Shelf Life

Store at +2°C to +8°C, protected from light.

Once opened, store at 4°C and use within 6–8 weeks.

Shipping Conditions

Ambient temperature

Maintenance

Keep refrigerated at +2°C to +8°C in the dark. Avoid freezing and frequent warming to +37°C, as it reduces product quality.

Do not heat the medium beyond 37°C or use uncontrolled heat sources such as microwave appliances.

If only part of the medium is to be used, remove the required amount and warm it to room temperature before use.

Composition

Category

Components

Concentration (mg/L)

Amino Acids

Glycine

10.00

L-Alanyl-L-Glutamine

434.40

L-Arginine

200.00

L-Asparagine H_2O

56.82

L-Aspartic Acid

20.00

L-Cystine 2HCl

65.20

L-Glutamic Acid

20.00

L-Histidine HCl H_2O

20.27

L-Hydroxy-L-Proline

20.00

L-Isoleucine

50.00

L-Leucine

50.00

L-Lysine HCl

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Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

40.00
L-Methionine
15.00
L-Phenylalanine
15.00
L-Proline
20.00
L-Serine
30.00
L-Threonine
20.00
L-Tryptophan
5.00
L-Tyrosine 2Na $2H_2O$
28.83
L-Valine
20.00
Vitamins
p-Amino Benzoic Acid
1.00
D-Biotin
0.20
Choline Chloride
3.00
D-Calcium Pantothenate
0.25
Folic Acid
1.00
myo-Inositol
35.00
Nicotinamide
1.00
Pyridoxine HCl
1.00
Riboflavin
0.20
Thiamine HCl
1.00
Vitamin B_{12}
0.005
Inorganic Salts
$Ca(NO_3)_2$ $4H_2O$
100.00
KCl
400.00
$MgSO_4$ $7H_2O$
100.00
NaCl
6000.00
$NaHCO_3$
2000.00
Na_2HPO_4
800.00
Other Components
D-Glucose
2000.00
L-Glutathione Reduced
1.00
Phenol Red Sodium Salt
5.30

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