

Product Information

RPMI 1640 Medium Modified

with 2.05 mM L-glutamine, without phenol red, without sodium bicarbonate

CATALOG NO. 56510C

Description

RPMI 1640 Medium was developed at Roswell Park Memorial Institute in 1966 by Moore and his co-workers. A modification of McCoy's 5A Medium, it was formulated to support lymphoblastoid cells in suspension culture, but it has since been shown to support a wide variety of cells that are anchorage dependent. Originally intended to be used with a serum supplement, RPMI 1640 has been shown to support several cell lines in the absence of serum. It has also been widely used in fusion protocols and in the growth of hybrid cells.

Precautions

Use aseptic technique when handling or supplementing this medium. This product is for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

Storage

Store dry powder medium at 2 to 8 C. Do not use after expiration date. Store hydrated medium at 2 to 8 C, protected from light.

Indications of Deterioration

Dry powder medium should be free flowing. Do not use if powder is caked. Prepared medium should be clear of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include color change or degradation of physical or performance characteristics.

Formulation

Component (all components measured in mg/L)	
INORGANIC SALTS	
Calcium nitrate tetrahydrate	100.000
Magnesium sulfate anhydrous	48.840
Potassium chloride	400.000
Sodium chloride	6000.000
Sodium phosphate dibasic anhydrous	800.000
VITAMINS	
Biotin	0.200
D-calcium pantothenate	0.250
Choline chloride	3.000
Cyanocobalamin	0.005
Folic acid	1.000
i-inositol	35.000
Niacinamide	1.000
PABA	1.000
Pyridoxine HCl	1.000
Riboflavin	0.200
Thiamine HCl	1.000
AMINO ACIDS	
L-arginine free base	200.000
L-asparagine monohydrate	56.800
L-aspartic acid	20.000
L-cystine 2HCl	65.150
L-glutamic acid	20.000
L-glutamine	300.000
Glycine	10.000
L-histidine free base	15.000
Hydroxy L-proline	20.000
L-isoleucine	50.000
L-leucine	50.000
L-lysine HCl	40.000
L-methionine	15.000
L-phenylalanine	15.000
L-proline	20.000
L-serine	30.000
L-threonine	20.000
L-tryptophan	5.000
L-tyrosine 2Na dihydrate	28.830
L-valine	20.000
OTHER	
Dextrose anhydrous	2000.000
L-glutathione reduced	1.000
Add: Sodium bicarbonate	2000.000
Grams of powder per liter	10.400

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Preparation Instructions

1. Measure 80 - 90% of final required volume of cell culture grade water (Catalog No. 59900C) into an appropriate size mixing vessel. Water temperature should be 15 to 30 C.
2. Slowly add 10.39 g/L dry powder medium. Stir until completely dissolved. Rinse the package with a small amount of cell culture grade water to remove traces of powder and add to the solution.
3. Mix until completely dissolved. Do not heat the medium.
4. Add 2.0 g/L of sodium bicarbonate (Catalog No. 90421C) or 26.7 mL/L of sodium bicarbonate solution 7.5% (Catalog No. 59221C). Mix until fully dissolved.
6. While mixing the solution, adjust the pH to 7.0 - 7.4 using NaOH 1N (Catalog No. 59223C) or HCl 1N. The pH of this medium usually rises 0.1 - 0.2 units during the filtration.
7. Add cell culture grade water to the solution to bring it to final volume. To avoid fluctuation in pH, keep the vessel closed until the medium is filtered.
8. To sterilize the medium, sterile filter using a low protein-binding membrane filter with a pore size of 0.22 µm. For larger volumes, a low-protein binding 0.45 µm pre-filter is recommended. To minimize CO₂ loss, a peristaltic pump or an inert gas, such as nitrogen, can be used to provide positive pressure at 2 - 15 psi. Do not use CO₂ gas.

NOTE: Other supplements, such as antibiotics, can be added to the sterilized solution using aseptic technique. Storage conditions and shelf life of the supplemented product may be affected by the nature of the supplements.

9. Dispense medium into sterile containers using aseptic technique. Store liquid medium protected from light at 2 to 8 C.

NOTE: Dry powder medium is extremely hygroscopic and must be protected from atmospheric moisture. We recommend that the entire contents of each package be used immediately after opening.

Characteristics

Appearance

Off-white free-flowing powder

Bioburden

≤ 100 CFU/100 mL

Endotoxin

≤ 1.0 EU/mL

Osmolality (as supplied)

Refer to Certificate of Analysis

pH (as supplied)

8.0 - 8.4

References

1. Moore, G. E. et al., *JNCI* (1966) 36:405.
2. Moore, G. E., *JAMA* (1967) 199:519.
3. Moore, G. E. and Woods L. K., *TCA Manual* (1977) 3:503.

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