Product Information

SILAC RPMI 1640, w/o L-Arginine, w/o L-Lysine, w/o L-Glutamine, w/o Phenol Red
Cat. No. RPMI-SIL-500ML (500 ml)

General Information

SILAC RPMI is optimized for labeling experiments involving the use of stable amino acid isotopes (SILAC = stable isotope labeling with amino acids in cell culture). SILAC enables a simple, robust, and powerful approach in mass spectrometry (MS)-based quantitative research to explore the enormous complexity of the proteome. It is used to investigate various aspects, such as protein expression, protein quantification, and protein stability, which are difficult to detect with simple mass spectrometry.

SILAC labeling is accomplished via normal metabolic processes (e.g., cell division), by incorporating non-radioactive stable amino acid isotopes into newly synthesized proteins. In this process, the "light" amino acids contained in the growth medium are replaced by "heavy" ones. Cells growing in this medium take up the heavy amino acids and enable the differentiation between light and heavy proteins. These labeled target proteins can also be used for protein quantification. Protein levels are measured with a mass spectrometer, based on signal intensity (labeled cells appear heavier). By providing accuracy of quantification and the simplicity of interpreting MS results, the SILAC method offers unique advantages for quantitative and functional proteomics.

SILAC RPMI is formulated without L-Arginine and L-Lysine for multiple isotopic amino acid labeling and has no effect on cell morphology or growth rates.

Applications:

- Quantitative and functional proteomics
- Analyses of tissue regeneration
- Analyses of post-translational modifications
- MS (Mass Spectrometry)
- NMR (Nuclear Magnetic Resonance)

Product Specifications

Appearance	Clear solution
CO_2 concentration, optimum	4.5 %
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

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Formulation

Components	Concentration mg/L
Amino Acids:	
Glycine	10.00
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-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

Components	Concentration mg/L
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 B12	0.005
Inorganic Salts:	
$Ca(NO_3)_2$ 4 H_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

Precautions and Disclaimer

This product is for research and further manufacturing use only.

Help Needed?

If you have any further questions regarding this product, please do not hesitate to contact our cell culture experts by email (techservice@capricorn-scientific.com) or phone (+49 6424 944640).