

Product Information

SILAC DMEM, High Glucose (4.5 g/L), w/o L-Arginine, w/o L-Lysine, w/o L-Glutamine, w/o Phenol Red
 Cat. No. DMEM-SIL-500ML (500 ml)

General Information

SILAC DMEM 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 DMEM 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	8.5 %
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	30.00
L-Cystine 2 HCl	62.57
L-Histidine HCl H ₂ O	42.00
L-Isoleucine	105.00
L-Leucine	105.00
L-Methionine	30.00
L-Phenylalanine	66.00
L-Serine	42.00
L-Threonine	95.00
L-Tryptophan	16.00
L-Tyrosine 2 Na 2 H ₂ O	103.79
L-Valine	94.00
Vitamins:	
Choline chloride	4.00
D-Calcium Pantothenate	4.00
Folic Acid	4.00

Components	Concentration mg/L
myo-Inositol	7.20
Nicotinamide	4.00
Pyridoxal HCl	4.00
Riboflavin	0.40
Thiamine HCl	4.00
Inorganic Salts:	
CaCl ₂ 2 H ₂ O	265.00
Fe(NO ₃) ₃ 9 H ₂ O	0.10
KCl	400.00
MgSO ₄ 7 H ₂ O	200.00
NaCl	6400.00
NaHCO ₃	3700.00
NaH ₂ PO ₄ 2 H ₂ O	141.73
Other Components:	
D-Glucose	4500.00

Precautions and Disclaimer

This product is for research 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).