

Product Data Sheet

SILAC Media

Catalog Number: 0420 to 0434, 0416 to 0419, 0440-0443

Product Description

SILAC media is prepared specifically for labeling experiments involving the use of stable amino acid isotopes. Athena provides several of the most commonly used media without L-arginine, L-lysine, L-leucine and L-methionine, the four mostly commonly used heavy isotope labeled amino acids.

Powdered Formulations

The SILAC ingredients are milled to a fine particle size, blended to give a homogeneous mix and filled in moisture proof pouches. Each pouch contains enough medium to prepare 1 liter of medium.

- *Cost-effective*
- *Lower shipping costs*
- *3 year shelf-life*

Stock solutions of each of the four missing amino acids can be purchased separately.

Ready-to-Use Liquid

The SILAC medium is prepared as a ready-to-use liquid that is sterile filled and filled in 500 ml bottles. Each bottle is supplied with stock solutions of each of the four missing amino acids. This permits reconstitution of complete medium.

- Convenient ready-to-use
- Eliminates prep time
- Just add sterile amino acids and supplements

Custom Media

If you need a medium formulation without other amino acids or components, AthenaES™ specializes in low volume custom production of formulations of other cell culture media. To request a custom tissue culture go to Custom Medium Request to submit an online request form.

Specifications and Storage (0416 - 0434)

Storage	4°C
Stability at 4°C	Liquid: 2 years Powder: 3 years
pH	7.3 ± 0.2
Osmolality	270 - 300 mOsm

Specifications and Storage (0440 - 0443)

Storage and Stability	Liquid*: 1-3 months at -20°C, 6-12 months at -80°C (*in water) Powder: Store in a cool and dark place or 4°C, considered stable if stored at specified conditions
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Ordering Information

Cat. No.	Description	Size
0420	DMEM High Glucose	500mL
0421	DMEM Low Glucose	500mL
0422	RPMI 1640	500mL
0423	DMEM/F12	500mL
0424	MEM	500mL
0425	Ham's F12	500mL
0426	McCoy's 5A	500mL
0428	NeuroBasal Medium	500ml
0429	Insect SFM	500ml
0434	SILAC IMDM	500ml
0430	DMEM High Glucose	1L, powder
0431	DMEM Low Glucose	1L, powder
0432	RPMI 1640	1L, powder
0433	DMEM/F12	1L, powder
0416	1,149 mM L-Arg	6 x 0.5mL
0417	800 mM L-Lys	6 x 0.5ml
0418	160 mM L-Leu	12 x 1.25ml
0419	201 mM L-Met	6 x 0.5ml
0440	L-Arg 13C6 HCl	0.1 or 1 g
0441	L-Arg 13C6, 15N4 HCl	0.1 or 1 g
0442	L-Lys 13C6 HCl	0.1 or 1 g
0443	L-Lys 13C6, 15N2 HCl	0.1 or 1 g

All media are made without Phenol Red or Sodium Pyruvate as well as without Arg, Lys, Leu, Met.

References

SILAC Organization, www.silac.org

Ong and Mann. 2007. A practical recipe for stable isotope labeling by amino acids in cell culture (SILAC). Nat. Protocols 1:2650-2660.

Data Sheet:

SILAC Media Formulations

DMEM, RPMI 1640, DMEM/F12, MEM, Ham's F12, McCoy's 5A



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	CATALOG NUMBER	0420/0430	0421/0431	0422/0432	0423/0433	0424	0425	0426	0428	0434
	MEDIUM	DMEM high glucose	DMEM low glucose	RPMI 1640	DMEM/F12	MEM	Ham's F12	McCoy's 5A	NeuroBasal	IMDM
COMPONENT	Molecular Weight									
Amino Acids	g/mol	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Glycine	75.07	30	30	10	18.75		7.5	7.5	30.000	30
L-Alanine	89.09				4.45		8.9	13.9	2.000	25
L-Arginine•HCl	210.66	84	84	242.13	147.5	126	211	42.1	84.00	84
L-Asparagine•H ₂ O	150.13			56.9	7.5		15.01	51.2	0.830	25
L-Aspartic Acid	133.10			20	6.65		13.3	19.97		30
L-Cysteine	121.16				12.1		24.2	31.5	31.500	
L-Cystine•2HCl	313.22	63	63	65	31.29	31				91
L-Glutamic Acid	147.13			20	7.35		14.7	22.1		75
L-Glutamine	146.14	584	584	300	365	292	146	219.2		
L-Histidine	155.15	31	31	15	23.3	31	15.5	15.5	31.000	31.04
trans-4-Hydroxy-L-Proline	131.13			20				19.7		
L-Isoleucine	131.17	105	105	50	54.47	52	4	39.36	105.000	105
L-Leucine	131.17	105	105	50	59.05	52	13.1	39.36	105.000	105
L-Lysine•HCl	182.65	146	146	40	91.25	73	36.5	36.5	146.000	146
L-Methionine	149.21	30	30	15	17.24	15	4.5	14.9	30.00	30
L-Phenylalanine	165.19	66	66	15	35.48	32	5	16.5	66.000	66
L-Proline	115.13			20	17.25		34.5	17.3	7.760	40
L-Serine	105.09	42	42	30	26.25		10.5	26.3	42.000	42
L-Threonine	119.12	95	95	20	53.45	48	11.9	17.9	95.000	95
L-Tryptophan	204.23	16	16	5	9.02	10	2.04	3.1	16.000	16
L-Tyrosine	181.19	72.2	72.2	20.1	38.7	36.1	6.3	18.1	72.000	83.75
L-Valine	117.15	94	94	20	52.85	46	11.7	17.6	94.000	94
Inorganic Salts										
Calcium Chloride Dihydrate (CaCl ₂ •2H ₂ O)	147.01	264.9	264.9		154.4	264.9	44	132.4	264.860	218.6
Calcium Nitrate Tetrahydrate (Ca(NO ₃) ₂ •4H ₂ O)	236.15			100						
Cupric Sulfate Pentahydrate (CuSO ₄ •5H ₂ O)	249.69				0.0013		0.0025			
Ferric Nitrate Nonahydrate (Fe(NO ₃) ₃ •9H ₂ O)	404.00	0.1	0.1		0.05				0.100	
Ferric Sulfate Heptahydrate (FeSO ₄ •7H ₂ O)	278.01				0.417		0.834			
Magnesium Chloride, anhydrous (MgCl ₂)	95.21				28.64		57.22		77.300	
Magnesium Sulfate, anhydrous (MgSO ₄)	120.37	97.67	97.67	48.84	48.84	97.67		97.67		97.67
Potassium Chloride (KCl)	74.55	400	400	400	311.8	400	223.6	400	400.000	330
Potassium Nitrate (KNO ₃)										0.076
Sodium Bicarbonate (NaHCO ₃)	84.01	3700	3700	1500	2438	2200	1176	2200	2,200.000	3024
Sodium Chloride (NaCl)	58.44	6400	6400	6000	6995.5	6800	7599	5100	3,000.000	4505
Sodium Phosphate Dibasic (Na ₂ HPO ₄)	142.00			800	71.02		142			125
Sodium Phosphate Monobasic (NaH ₂ PO ₄)	119.98	108.7	108.7		62.5	121.7		504.3	108.700	
Sodium selenite (Na ₂ SeO ₃ •5H ₂ O)										0.017
Zinc Sulfate Heptahydrate (ZnSO ₄ •7H ₂ O)					0.432		0.863		0.194	
Vitamins										
Ascorbic Acid	176.12							0.5		
D-Biotin	244.31			0.2	0.0035		0.0073	0.2		0.013
Calcium D-Pantothenic Acid	238.27	2	2	0.125	1.12	1	0.25	0.2	2.000	2
Choline Chloride	139.62	4	4	3	8.98	1	14	5	4.000	4
Folic Acid	441.40	4	4	1	2.65	1	1.3	10	4.000	4
I-Inositol	180.16	7.2	7.2	35	12.6	2	18	36	7.200	7.2
Niacinamide	122.12	4	4	1	2.02	1	0.036	0.5	4.000	4
Nicotinic Acid	123.11							0.5		
para-Aminobenzoic Acid	137.14			1				1		
Pyridoxal•HCl	203.62					1		0.5		4
Pyridoxine•HCl	205.64	4	4	1	2		0.06	0.5	4.000	
Riboflavin	376.36	0.4	0.4	0.2	0.219	0.1	0.037	0.2	0.400	0.4
Thiamine•HCl	337.27	4	4	1	2.17	1	0.3	0.2	4.000	4
Vitamin B12	1355.37			0.005	0.68		1.4	2	0.007	0.013
Other Components										
Bacto Peptone								600		
D-Glucose	180.16	4500	1000	4500	3151	1000	1802	3000	4,500.000	4500
Glutathione (Reduced)	307.32			1				0.5		
HEPES	238.30			2383				5958	2,600.000	5958
Hypoxanthine	136.11				2		4.1			
Linoleic Acid	280.45				0.042		0.084			
Lipoic Acid	206.34				0.105		0.21			
Phenol Red	354.38	14.1	14.1	4.7	7.6	9.4	1.1	9.4	7.63	15
Putrescine•2HCl	161.07				0.081		0.161			
Sodium Pyruvate	110.00			110	55		110			110
Thymidine	242.23				0.365		0.7			
Total (g/L)		17.1	13.6	16.9	14.4	11.7	11.8	18.7	13.8	20.1

Red highlighted ingredients are not added to SILAC formulations. The values are provided to direct the end-user as to how much of each component to add to reconstitute complete medium.