

Product Information

DMEM Advanced High Glucose (4.5 g/L), w/o L-Glutamine, with Non-Essential Amino Acids, with Sodium Pyruvate Cat. No. DMEM-ADV-500ML

General Information

DMEM Advanced is based on the classical media formulation supplemented with advanced nutrients like Insulin, Transferrin and Trace elements. The additional nutrients enable a 50-90% less Fetal Bovine Serum (FBS) supplementation required for the *in vitro* cell culture of mammalian cells.

DMEM Advanced supports cellular proliferation and maximum cell densities comparable, and in some cases superior, to the conventional basal formulation supplemented with 10% FBS.

Serum reduction improves the consistency, safety and reproducibility of experimental results by decreasing the variability caused due to undefined serum constituents.

Appearance	Clear red orange 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

Instructions for Use:

- Recommended concentrations of serum using DMEM Advanced ranges from 1-5 % Fetal Bovine Serum.
- No weaning procedures are necessary to reduce serum supplementation by at least 50%.
- The percentage of serum reduction may vary according to cell lines and should be adjusted to achieve optimal results.
- The conversion can be made by simply centrifuging the cells, decanting the supernatant, and resuspending them in the reduced-serum supplemented medium.
- If using antibiotics, we recommend reducing the amount in proportion to the amount of serum.



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Formulation

Amino Acids: Glycine	Components	Concentration mg/L
Glycine L-Alanine B.90 L-Arginine HCl B4.00 L-Asparagine B-Aspartic acid B-Cystine 2 HCl B-Glutamine B-Glutamic acid B-Glutami		
L-Alanine L-Arginine HCl 84.00 L-Asparagine 13.20 L-Aspartic acid 13.30 L-Cystine 2 HCl 63.00 L-Glutamine 584.00 L-Glutamic acid 14.70 L-Histidine HCl H ₂ O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Phenylalanine 66.00 L-Phenylalanine 11.50 L-Serine 12.50 L-Threonine 15.00 L-Tryptophan 16.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate Choline chloride 4.00 P-Calcium Pantothenate Folic Acid myo-Inositol Nicotinamide Pyridoxal HCl Riboflavin	Amino Acids:	
L-Arginine HCl 84.00 L-Asparagine 13.20 L-Aspartic acid 13.30 L-Cystine 2 HCl 63.00 L-Glutamine 584.00 L-Glutamic acid 14.70 L-Histidine HCl H ₂ O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Phenylalanine 66.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 p-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	Glycine	37.50
L-Asparagine L-Aspartic acid 13.30 L-Cystine 2 HCl 63.00 L-Glutamine 584.00 L-Glutamic acid 14.70 L-Histidine HCl H ₂ O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Leucine 105.00 L-Phenylalanine 66.00 L-Phenylalanine 11.50 L-Serine 152.50 L-Threonine 152.50 L-Tryptophan 16.00 L-Tyytophan 16.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate Choline chloride D-Calcium Pantothenate Folic Acid myo-Inositol Nicotinamide Pyridoxal HCl Riboflavin 0.40	L-Alanine	8.90
L-Aspartic acid L-Cystine 2 HCl 63.00 L-Glutamine 584.00 L-Glutamic acid 14.70 L-Histidine HCl H ₂ O L-Isoleucine 105.00 L-Leucine 105.00 L-Leucine 105.00 L-Phenylalanine 105.00 L-Phenylalanine 11.50 L-Serine 11.50 L-Serine 11.50 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate Choline chloride D-Calcium Pantothenate Folic Acid myo-Inositol Nicotinamide Pyridoxal HCl Riboflavin 0.40	L-Arginine HCl	84.00
L-Cystine 2 HCl 63.00 L-Glutamine 584.00 L-Glutamic acid 14.70 L-Histidine HCl H₂O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 P-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Asparagine	13.20
L-Glutamine 584.00 L-Glutamic acid 14.70 L-Histidine HCl H ₂ O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Aspartic acid	13.30
L-Glutamic acid 14.70 L-Histidine HCl H ₂ O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Cystine 2 HCl	63.00
L-Histidine HCl H₂O 42.00 L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tryptophan 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Glutamine	584.00
L-Isoleucine 105.00 L-Leucine 105.00 L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Glutamic acid	14.70
L-Leucine 105.00 L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Histidine HCl H ₂ O	42.00
L-Lysine HCl 146.00 L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Isoleucine	105.00
L-Methionine 30.00 L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Leucine	105.00
L-Phenylalanine 66.00 L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Lysine HCl	146.00
L-Proline 11.50 L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Methionine	30.00
L-Serine 52.50 L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Phenylalanine	66.00
L-Threonine 95.00 L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Proline	11.50
L-Tryptophan 16.00 L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Serine	52.50
L-Tyrosine 2 Na 104.00 L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Threonine	95.00
L-Valine 94.00 Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Tryptophan	16.00
Vitamins: Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Tyrosine 2 Na	104.00
Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	L-Valine	94.00
Ascorbic Acid phosphate 2.50 Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40		
Choline chloride 4.00 D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	Vitamins:	
D-Calcium Pantothenate 4.00 Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	Ascorbic Acid phosphate	2.50
Folic Acid 4.00 myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	Choline chloride	4.00
myo-Inositol 7.20 Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	D-Calcium Pantothenate	4.00
Nicotinamide 4.00 Pyridoxal HCl 4.00 Riboflavin 0.40	Folic Acid	4.00
Pyridoxal HCl 4.00 Riboflavin 0.40	myo-Inositol	7.20
Riboflavin 0.40	Nicotinamide	4.00
	Pyridoxal HCl	4.00
Thiamine HCl 4.00	Riboflavin	0.40
	Thiamine HCl	4.00

Components	Concentration mg/L
Inorganic Salts:	
CaCl ₂ 2 H ₂ O	200.00
Fe(NO ₃) ₃ 9 H ₂ O	0.10
KCI	400.00
MgSO ₄	97.67
NaCl	6400.00
NaHCO ₃	3700.00
NaH ₂ PO ₄	125.00
Proteins:	
BSA	400.00
Holo-Transferrin (human)	7.50
Insulin (recombinant, human)	10.00
Trace Elements:	
Ammonium Metavanadate	0.0003
Cupric Sulfate	0.00125
Manganous Sulfate	0.0000427
Sodium Selenite	0.005
Other Components:	
D-Glucose	4500.00
Ethanolamine	1.90
Glutathione (reduced)	1.00
Phenol Red Sodium Salt	15.90
Sodium Pyruvate	110.00

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).