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.
- The percentage of serum reduction may vary for individual cell lines and should be adjusted accordingly to achieve optimal results.

Adaptation process:

For some cell lines it is necessary to slowly adapt the cells to a reduced serum content. Not every cell line is capable of a radical reduction process. Thus, we recommend proceeding with a stepwise adaptation for sensitive cell lines.

Example from 10% serum supplementation to 1%:

Reduction step	FBS content	DMEM Advanced content
1. Passage (25% Reduction)	7.5%	92.5%
2. Passage	5.0%	95.0%
3. Passage	2.5%	97.5%
4. Passage	1.0%	99.0%

Only proceed to the next passage if the usual morphology and cell growth is observed. If the doubling time drops rapidly, stop and repeat the passage with the same concentration of FBS. If FBS cannot be further reduced without inhibiting the performance of your cell line, the final serum reduction step for your cell line is achieved.

- The conversion can be done 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

Components	Concentration mg/L
Amino Acids:	
Glycine	37.50
L-Alanine	8.90
L-Arginine HCl	84.00
L-Asparagine	13.20
L-Aspartic acid	13.30
L-Cystine 2 HCl	63.00
L-Glutamic acid	14.70
L-Histidine HCl H_2O	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
Thiamine HCl	4.00

Components	Concentration mg/L
Inorganic Salts:	
$CaCl_2$ 2 H_2O	200.00
$Fe(NO_3)_3$ 9 H_2O	0.10
KCl	400.00
$MgSO_4$	97.67
NaCl	6400.00
$NaHCO_3$	3700.00
NaH_2PO_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).