Product Information

RPMI 1640 Advanced, w/o L-Glutamine, with Non-Essential Amino Acids, with Sodium Pyruvate
Cat. No. RPMI-ADV-500ML

General Information

RPMI 1640 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.

RPMI 1640 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	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

Instructions for Use:

- Recommended concentrations of serum using RPMI 1640 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	RPMI 1640 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	10.00
L-Alanine	8.90
L-Arginine	200.00
L-Asparagine	50.00
L-Aspartic acid	20.00
L-Cystine 2 HCl	65.00
L-Glutamic acid	20.00
L-Histidine	15.00
L-Hydroxy-L-Proline	20.00
L-Isoleucine	50.00
L-Leucine	50.00
L-Lysine HCl	40.00
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 2 Na	29.00
L-Valine	20.00
Vitamins:	
p-Amino Benzoic Acid	1.00
Ascorbic Acid phosphate	2.50
D-Biotin	0.20
Choline chloride	3.00
D-Calcium Pantothenate	0.25
Folic Acid	1.00
myo-Inositol	35.00
Nicotinamide	1.00

Components	Concentration mg/L
Pyridoxal HCl	1.00
Riboflavin	0.20
Thiamine HCl	1.00
Vitamin B12	0.005
Inorganic Salts:	
$Ca(NO_3)_2 \cdot 4\ H_2O$	100.00
KCl	400.00
$MgSO_4$	48.84
NaCl	6000.00
$NaHCO_3$	2000.00
NaH_2PO_4	800.00
$ZnSO_4 \cdot 7\ H_2O$	0.874
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	2000.00
Ethanolamine	1.90
Glutathione (reduced)	1.00
Phenol Red Sodium Salt	5.00
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).