



NB-ROC™ T Cell Serum-Free Media

Serum-Free T Cell Expansion Media



NB-ROC™ T Cell SF Media is specially formulated for use with T cells by leading cell therapy scientists. It is serum free, and designed to address critical quality attributes specifically important to T cell and cell therapy research and development. NB-ROC T-cell medium consists of a basal media (1 L) plus a separate supplement (25 mL).

Significantly Improved Transduction Efficiency

Higher transduction efficiency results in more CAR-positive cells, thus more effective therapies.

Preserves Phenotypes and Promotes Proliferation

Preferentially maintains central memory populations and promotes proliferation and doubling as good as or better than current off-the-shelf T-cell media options.

Quality, Scalable Configurations

NB-ROC is produced in ISO 13485:2016 certified facilities and can be customized to larger formats for streamlined regulatory compliance.

Superior Transduction Efficiency

Why Transduction Efficiency Matters

T cell immunotherapy has proven to be very promising for cancer treatment. In applying the therapy, T cells are isolated from the patient's blood and transduced with a lentivirus to express novel chimeric antigen receptors (CAR) on their surface. Once infused back into the patient, the CARs enable the T cells to recognize, attach to, and kill tumor cells. Maintaining high numbers of T cells before and after transduction is of crucial importance. By increasing transduction efficiency, cultures result in more potent cells that translates to more potent therapies, as well as safer therapies as a lower volume of virus can be used.

Supplement with Physiologix™ for Greater Transduction Efficiency Gains

Physiologix™ XF SR is Nucleus Biologics' xeno-free, human growth factor concentrate made for stem cells and T cells that replaces human serum. While Physiologix enhances transduction efficiency when compared to human serum in all media tested, peak transduction efficiency greater than 3-fold was measured using NB-ROC and Physiologix when compared to the leading competing media (Fig 1). NB-ROC and Physiologix can be purchased conveniently as a kit providing you with a complete serum-free option to take performance of your cells to new heights.

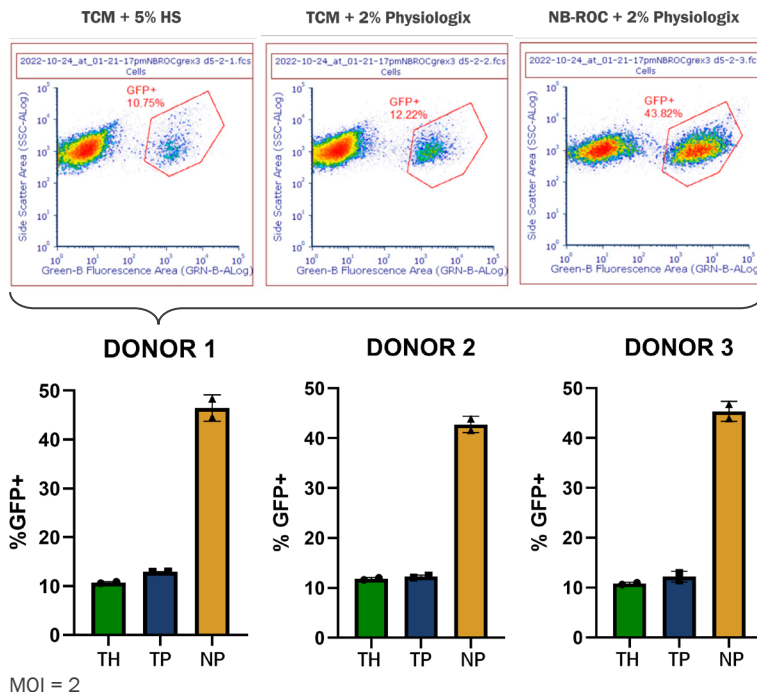


Figure 1. Comparison of T cell Lentivirus transduction in different T cell culture media: an industry-leading T cell media (TCM) + 5% Human Serum (green), TCM + 2% Physiologix (blue), and NB-ROC + 2% Physiologix (yellow).

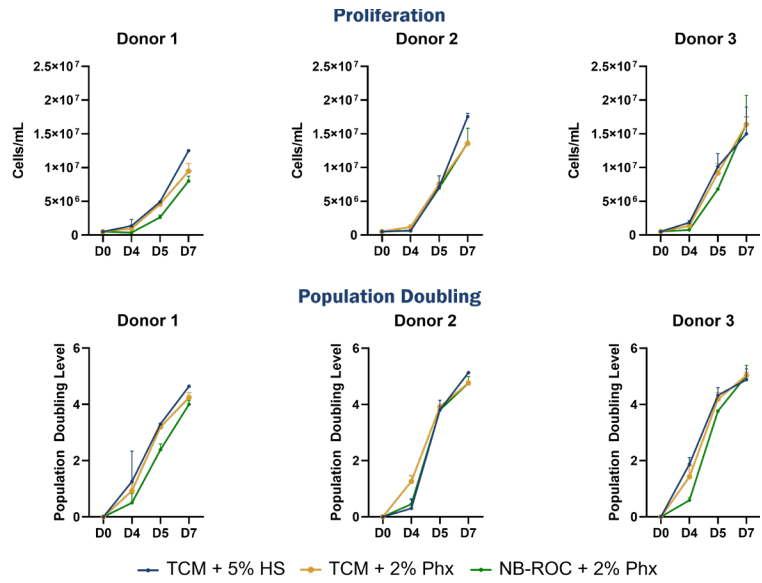
Cell culture started at D0 using a cell density of 0.5×10^6 cells/mL in a G-REX 10 vessel (6 well, 40 mL volume media/well). Lentivirus expressing GFP (Green Fluorescent Protein) was added on D1. On D5, 30 mL of media was removed, cells were resuspended, and GFP+ expression using Flow Cytometry was assessed.

Maintains Desired Phenotypes and Supports Proliferation

Preferentially maintains central memory populations that are desired for CAR-T development equivalent to other popular T-cell media, and promotes proliferation and population doubling as good as or better than current off-the-shelf T-cell media options. All other quality indicators, like cell health and viability, are also maintained.

Figure 2. Comparison of T cell proliferation and population doubling in different T cell culture media: an industry-leading T cell media (TCM) + 5% Human Serum, TCM + 2% Physiologix, and NB-ROC + 2% Physiologix.

Cell culture started at D0 using a cell density of 0.5×10^6 cells/mL in a G-REX 10 vessel (6 well, 40 mL volume media/well). On D5, 30 mL of media was removed, cells were resuspended, and cell count was performed using a cell counter (DeNovix CellDrop Cell Counter) and 30 mL of fresh media was added. Same steps were followed for day 5 and Day 7. Population doubling was calculated using the final cell count. →



Products

Catalog Number	Product Name	Content	Size	Price
1536	NB-ROC™ T Cell SF Media	NB-ROC™ T Cell SF Basal Media NB-ROC™ T Cell SF Supplement	1 L 25 mL	\$199
1537	NB-ROC™ T Cell SF Media with Physiologix™ XF SR Kit	NB-ROC™ T Cell SF Basal Media NB-ROC™ T Cell SF Supplement Physiologix™ XF SR	1 L 25 mL 2 x 10 mL	\$349
Coming Soon!	NB-ROC™ cGMP T Cell SF Media	NB-ROC™ T Cell SF Basal Media NB-ROC™ T Cell SF Supplement	1 L 25 mL	Inquire
Coming Soon!	NB-ROC™ cGMP T Cell SF Media with Physiologix™ XF SR Kit	NB-ROC™ T Cell SF Basal Media NB-ROC™ T Cell SF Supplement Physiologix™ XF SR	1 L 25 mL 2 x 10 mL	Inquire

Product Specifications

Sterility	Sterile filtered basal media
pH	6.5-7.5
Osmolality	270-330 mOsm/Kg
Included Antibiotics	No antibiotics
Quality	Research use
Phenol Red Indicator	Phenol red free
Serum Level	Serum-free
Format	Liquid
Glutamine	Yes
Sodium Pyruvate Additive	Yes

Storage and Shipping Specifications

Storage	NB-ROC T Cell SF Basal Media: 2-8 °C NB-ROC T Cell SF Supplement: 2-8 °C Physiologix XF SR: -80 °C
Shelf Life	It is recommended to use media within 30 days of mixing the basal media and supplement.
Thawing	Applicable to kits containing Physiologix only (Catalog Number 1537). Preferred method of thaw is 37 °C water bath. Limit freeze thaw cycles of aliquots to less than three.

Nucleus Biologics

10929 Technology Place | San Diego, CA 92127

858.251.2010 | sales@nucleusbiologics.com | www.nucleusbiologics.com

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