

# Product Data Sheet

## FBS Replacement, Sterile

Catalog Number: 0454

### Product Description

Athena's FBS Replacement is a proprietary serum formulation. It is derived from serum collected in the USA under aseptic conditions and certified viral- and mycoplasma-free. The serum is then further processed to remove components not found in FBS and supplemented with a mixture of growth factors, cytokines and lipids resulting in a serum replacement that functionally mimics FBS.

The nutritional requirements of cell type differ. To ensure a successful transition to FBS Replacement, it is important to determine the optimum amount of FBS Replacement needed and to determine if the cells need adaptation. Some cell types may be cultivated without adaptation to FBS Replacement. However, certain types of cells may respond to small changes in the media composition when transferred from FBS-containing media to that with FBS Replacement. For these cells, progressive adaptation is recommended to allow cells to gradually adapt to the new medium environment (see Instructions below).

### Product Specifications

Unit Size	50 ml and 500 ml
Shipping	This product is shipped on dry ice
Storage	Store at <-20°C
Stability	2 years at -20°C; 3 years at -80°C
pH	7.1 - 7.4
Total Protein	30-45 mg/ml
IgG	<1.0 mg/ml
Certifications	Sterile, Heat Inactivated
Source	U.S.A. from USDA inspected and certified disease-free herds.

### Instructions for Use

1. Add directly to media base along with any other supplements. Final concentration should be between 2% and 20% depending on the cell type. Filter sterilization of the medium-serum mixture is recommended.
2. In some cases, cells may require adaptation for cultivation in FBS Replacement. Use a step-down procedure by successively exchanging FBS for the FBS Replacement at each feeding. Begin with a 1:1 mixture of FBS Replacement to FBS followed by mixtures of 2:1, 4:1, 10:1 and 20:1. At the sixth feeding, 100% FBS Replacement may be used.
3. Once the cells have been adapted, preserve them accordingly. If using a serum-based cryogenic preservation solution, replace the serum with FBS Replacement.



**Athena Enzyme Systems™** T (MD): 410-455-6319  
1450 South Rolling Road T (USA): 888-892-8408  
Baltimore, MD 21227 F: 410-455-1155  
**AthenaES®** USA aesinfo@athenaes.com  
a division of Athena Environmental Sciences, Inc.

### Ordering Information:

Cat. No.	Product Name
0454-50	FBS Replacement, 50 ml
0454-500	FBS Replacement, 500 ml

For pricing and availability contact  
Beth Anne Willert at [bwillert@solomednj.com](mailto:bwillert@solomednj.com).

### Cell Types and Lines Tested

Human:

HEK 293 and 293T  
55T Prostate Cancer  
MOLM-13 Acute Myeloid Leukemia  
MV4-11 Myelomonocytic Leukemia  
DND-1 T-cell Lymphoblasts  
Kasumi Leukemic Cell Line  
THP-1 Monocyte  
Sarcoma Cells  
SH-SY5Y Neuron-like Cells  
MDA-MB-231 Breast Cancer Cells  
MCF-1 Breast Cancer Cells

Mouse:

Brain Microglia

Check website for updated list.  
<http://www.athenaes.com/FBSReplacement.php>

### Material Safety Data

FOR RESEARCH USE ONLY. NOT INTENDED OR APPROVED FOR HUMAN, DIAGNOSTICS OR VETERINARY USE. Do not ingest, swallow or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. For complete safety information see full Material Safety Data Sheet.