

# Product Information

## SERUM PLUS™ Medium Supplement FBS gamma irradiated by SER-TAIN™ Process FBS Sourced in USA

CATALOG NO. 14008C

### Description

SERUM PLUS™ is a medium supplement that can be used as a serum substitute for most cell culture applications. SERUM PLUS™ contains a low level of gamma irradiated Fetal Bovine Serum (FBS) supplemented with proteins that promote nutrient transport, cell attachment and cell growth. Benefits include less than half of the total protein concentration found in serum, reduced levels of inhibitors such as proteases and viral antibodies and consistency of lot-to-lot performance due to greater control of the component materials.

Cells grown in standard serum-supplemented media can be transferred directly into medium supplemented with SERUM PLUS™ with no adaptation, loss of cell yields, decrease in viability or morphological changes. SERUM PLUS™ can be used with or without heat inactivation in protocols that require heat inactivated serum. Heat inactivation may reduce the attachment enhancing capabilities of SERUM PLUS™ to the same extent that the process reduces that capability of serum. To ensure optimal growth, some cell types may require complete medium replacement after 3 - 4 days in culture. Cells grown in SERUM PLUS™ can be removed from substrates by trypsin using standard dissociation techniques.

The material used in this product is collected in the United States. Animals used for collection of serum are USDA inspected and acceptable for slaughter. A Certificate of Analysis indicating the country of origin is available for each lot of serum.

### Formulation

The formulation for SERUM PLUS™ is proprietary to SAFC Biosciences. For additional information please call our Technical Services department.

### Precautions

This product is for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

Use aseptic technique when handling this product. Refiltering sterile SERUM PLUS™ before or after being added to sterile medium is not recommended because growth-promoting capability may be reduced.

### Storage

Store SERUM PLUS™ at -10 to -40 C. Do not use after the expiration date.

### Preparation Instructions

#### Thawing

1. Remove the supplement bottles from the freezer and allow them to acclimate to room temperature for approximately 10 minutes.
2. Place each container in a 30 to 37 C water bath or incubator. Excessive temperatures will degrade heat labile nutrients. If using a water bath, prevent the bottle caps from being completely submerged.
3. Gently swirl or shake the bottles every 10 - 15 minutes until the serum is completely thawed.
4. After thawing, use the supplement promptly. Liquid supplement may be stored refrigerated (2 to 8 C) up to four weeks. To avoid thaw/freeze cycles or long periods of refrigeration, it is recommended that any unused supplement be immediately dispensed into small, useful aliquots and refrozen for future use.

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Periodic agitation is crucial for optimum performance. If a bottle is not periodically shaken or swirled as it thaws, gradients containing high concentrations of salts, proteins and lipids will form throughout the liquid portion and lead to the formation of crystalline or flocculent precipitates. These cryoprecipitates are not toxic to cell cultures, but they affect the appearance and consistency of each bottle.

Small amounts of cryoprecipitates are not uncommon, and will not affect product performance. Gently warming and mixing the supplement will generally allow the material to go back into solution.

## Characteristics

### Adventitious Viral Agents (AVA) (9CFR)

None detected

### Endotoxin

≤ 100.0 EU/mL

### Mycoplasma (9CFR)

None detected

### Osmolality

340 - 380 mOsm/kg H<sub>2</sub>O

### pH (at 25 C)

7.1 - 7.5

### Sterility (Current USP)

No microbial growth detected

#### Warranty, Limitation of Remedies

SAFC Biosciences warrants to the purchaser for a period of one year from date of delivery that this product conforms to its specifications. Other terms and conditions of this warranty are contained in SAFC Biosciences' written warranty, a copy of which is available upon request. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. In no case will SAFC Biosciences be liable for any special, incidental, or consequential damages arising out of this product or the use of this product by the customer or any third party based upon breach of warranty, breach of contract, negligence, strict tort, or any other legal theory. SAFC Biosciences expressly disclaims any warranty against claims by any third party by way of infringement or the like. THIS PRODUCT IS INTENDED FOR PURPOSES DESCRIBED ONLY AND IS NOT INTENDED FOR ANY HUMAN OR THERAPEUTIC USE.

Additional Terms and Conditions are contained in the product Catalog, a copy of which is available upon request.

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