

Product Information

Fetal Bovine Serum Sourced in USDA Approved Countries

CATALOG NO. 12303C

Description

Animal serum and/or the protein products derived from sera are essential supplements required for the growth of most cells *in vitro*.

Fetal Bovine Serum (FBS) is the most commonly used serum used to supplement cell culture media due to its high nutritional content. Although it is relatively low in protein, FBS is effective in promoting and sustaining growth of vertebrate mammalian and insect cells.

Raw Serum Process

Animal blood is collected in countries located in Central America and is USDA approved for shipment into the United States. Whole fetal blood is aseptically collected via cardiac puncture and allowed to clot under controlled conditions. Following clot separation, the raw serum is pooled and immediately frozen. Raw serum is pre-tested according to established criteria, such as pH, temperature, hemoglobin and endotoxin, prior to filtration and further processing.

Filtration & Packaging

Frozen raw serum is thawed under controlled conditions and then processed through a series of membrane filters. Serum is dispensed under HEPA filtered, Class 100 conditions. Serum is packaged in sterilized plastic bottles. Bottles are labeled and frozen at -10 to -40 C.

Traceability

This material was sourced from Central American countries and approved for import by the USDA. The animals were inspected pre- and post-mortem and deemed fit for human consumption. A Certificate of Analysis indicating the country of origin is available for each lot of serum.

Precautions

This product is for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE. For stability and optimal performance, serum should be stored at -10 to -40 C and used prior to the labeled expiration date.

Use aseptic technique when handling serum. Refiltering sterile serum before or after being added to sterile medium is not recommended because the growth promoting capability may be reduced.

Serum may contain undetectable levels of adventitious agents. The risk of transmission of viruses can be minimized by the use of a validated virus inactivation process.

Storage

To effectively preserve the integrity of animal serum, it should be stored frozen and protected from light. For stability and optimal performance, serum should be stored at -10 to -40 C and used prior to the labeled expiration date. Multiple thaw/freeze cycles should be avoided as they will hasten the degradation of serum nutrients and can result in the formation of insoluble precipitates.

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Preparation Instructions

Thawing

1. Remove the serum 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 serum promptly. Liquid serum may be stored refrigerated (2 to 8 C) up to 4 weeks. To avoid thaw/freeze cycles or long periods of refrigeration, it is recommended that any unused serum be immediately dispensed into small, useful aliquots and refrozen for future use.

Periodic agitation is crucial to its optimum performance. If a bottle of serum 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 of serum. Small amounts of cryoprecipitates are not uncommon, and will not affect product performance. Gently warming and mixing the serum will generally promote dissolution of precipitates.

Characteristics

Electrophoretic Profile

Record Result Albumin (g/dL)

Endotoxin

≤ 10.0 EU/mL

Growth Promotion

Tested

Hemoglobin

≤ 25 mg/dL

Mycoplasma

None detected

Osmolality

260 - 330 mOsm/kg H₂O

pH (at 25 C)

6.8 - 8.1

Sterility

No microbial growth detected

Total Protein

3.0 - 4.5 g/dL

Test results are recorded on the following: Adventitious Viral Agents (AVA), Cloning Efficiency and Plating Efficiency.

Warranty, Limitation of Remedies

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

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