

Foetal Bovine Serum

Product Overview

Foetal Bovine Serum (FBS) is the most widely used basal media supplement for in vitro cell culture. FBS contains very low level of antibodies, which combined with a higher concentration of growth factors (compared with adult or newborn sera), means FBS is effective in promoting and sustaining the growth of both mammalian and insect cells.



Key Benefits

Applications

FBS aids cell culture growth in three key areas:

- **Hormonal factors:** to stimulate cell growth and function. Different cell lines are stimulated by different growth factors and by different concentrations of hormones.
- **Attachment and spreading factors:** many cell lines must first adhere to a surface before they can spread and proliferate effectively.
- **Transport proteins:** these shuttle minerals, lipids, vitamins and other essential nutrients within the cell.

In addition, the supplementation of basal media with FBS serves to increase its buffering capacity. This can be important for slow growing cell types, or where the seeding density is low, such as during cell cloning experiments.

Specification

Specification	Parameter
Country of Origin	All LSG FBS is from a single origin. The country of origin for each batch will be stated on the COA.
	Mainly sourced from South America with USDA also stocked. AUS, USA, NZ, and EU origins available upon request
Sterility	Each batch of sera is tested for the absence of bacteria, fungi, yeast and Mycoplasma. A CoA is provided for every batch.

Viral Testing	FBS is tested for Bovine Viral Diarrhoea Virus (BVD-V), Bovine Parainfluenza-3 virus (PI3), Infectious Bovine Rhinotracheitis (IBR) and Bovine Viral Diarrhoea Virus antibodies (BVD-AB).
Filtration	FBS is filtered through three sequential 100 nm (0.1 µm).
Traceability	Full traceability available. These records are audited through the ISIA Traceability Audit program.
Endotoxin	All sera are tested to determine the levels of endotoxins using the Limulus amebocyte lysate test (LAL).
Growth promotion	Biological performance of final batches of sera is assessed for cell growth, plating efficiency and cloning efficiency.
Mycoplasma	Tested for M. bovis, M. arginini and A. laidlawii.

Ordering Information

FBS is supplied as standard in 500 mL bottles, although other formats are available on request but may be subject to MOQs and additional processing costs.

Product Code	Product Description	Pack Size
S-001X-BR	Foetal Bovine Serum (FBS) - Brazil	100 mL, 500 mL
S-001X-HI-BR	Foetal Bovine Serum (FBS) - Brazil - Heat Inactivated	100 mL, 500 mL
S-001A-HI-PG	Foetal Bovine Serum Origin: Paraguay - Heat Inactivated	500 mL
S-001A-PG	Foetal Bovine Serum Origin: Paraguay	500 mL
S-001A-US	Foetal Bovine Serum - US	500 mL
S-001A-USDA	Foetal Bovine Serum (FBS) - USDA	500 mL
S-001B-GI-BR	Foetal Bovine Serum (FBS) - Brazil - Gamma Irradiated	100 mL

*X denotes available sizes. Other origins are available.

LSG offer samples of FBS for testing prior to selection of a suitable batch. Typical sample size is 50 mL, and testing is expected to take place within four weeks. Reservation agreements and volume-based discounts are available.

Additional Treatments

All LSG FBS can be supplied as HI or GI but will be subject to additional cost and extended lead times as product is processed to order.



Storage

Recommended storage is - 20°C or below. Protect serum from exposure to light.



Packaging & Shipping

Product ships frozen on dry ice.

Quality Assurance

Quality Assurance testing precedes the release of a batch for sale. Full batch documentation can be provided including Certificates of Origin, Certificates of Analysis showing country of origin, and batch filtration records.

LSG FBS typically has endotoxin levels of below 10 EU/mL with some batches having endotoxin levels of below 1 EU/mL. Each batch is tested to ensure freedom from mycoplasma and specific viruses. Batches are also tested for the ability to support growth of specific cell lines. In addition, each batch is also tested for standard parameters. These include pH, osmolality, protein content, albumin, IgG and haemoglobin levels.

Additional Information

Shelf-Life Considerations

FBS has a shelf life of 5 years from the date of manufacture, provided it is stored appropriately. We would recommend enquiring about the shelf life of each available batch if it is important to have a long shelf-life following purchase.

Shelf-life may be extended beyond the five-year period, should this be required. This shelf-life extension is determined by conducting cell culture assays to ensure that the performance of the serum is maintained within acceptable parameters.

Collection and Processing

The quality of FBS is inherently linked to the collection and processing methods used and not the country of origin. A closed-system collection method (cardiac or venepuncture) and rapid processing are essential to produce a quality product. Low levels of endotoxin and haemoglobin are excellent indicators of the care with which collection and processing have been carried out.

LSP has over 30 years' experience in the collection and processing of Foetal Bovine Serum (FBS). Every batch of FBS is rigorously controlled throughout the process, from collection to treatment and finally packaging. This ensures complete traceability right back to the source. All our serum is collected and treated in accordance with current European regulations.

