

# ExCell Bio

## Fetal Bovine Serum (Prime)

For Research and Manufacturing Use

Not Intended for Diagnostic and Therapeutic Use

### User Manual

Catalog Number	FSP500
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Catalog Number	FSP100
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Catalog Number	FSP050
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Catalog Number	FSP025
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Catalog Number	FSP010
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## | PRODUCT DESCRIPTION

Fetal Bovine Serum (FBS) is a light brown clarified liquid derived from fetal bovine blood. It is obtained after coagulation and the removal of fibrinogen and certain coagulation factors from plasma. FBS is the most widely used natural medium in cell cultures, containing a wealth of nutrients essential for cell growth. It is typically added to cell cultures at a ratio of 5-20%. FBS contains various amino acids, vitamins, inorganic substances, lipids, and other nutrients necessary for maintaining cell growth. It also contains hormones, growth factors, and binding proteins such as insulin, hydrocortisone, dexamethasone, bFGF, EGF, PDGF, and transferrin that promote cell growth. Additionally, FBS serves to detoxify, buffer, and inhibit protease activity, protecting cells from harm.

ExCell Bio fetal bovine serum is collected from healthy cattle in non-epidemic areas and is processed through aseptic collection, batch mixing, and triple 100 nm filtration. It is free from mycoplasma and bovine viruses such as BVDV, PI3, IBR, and BTV.

## | SPECIFICATION, STORAGE AND TRANSPORTATION REQUIREMENT

Product Name	Cat.#	Specification	Resource	Storage	Transportation	Shelf Life
Fetal Bovine Serum (Prime)	FSP500	500 mL	Uruguay	-10°C and below Protect from light	< 0°C Protect from light	5 years
	FSP100	100 mL				
	FSP050	50 mL				
	FSP025	25 mL				
	FSP010	10 mL				

## | PERFORMANCE, APPLICATION AND RESTRICTION

1. Store serum in a dark environment, ideally in colored packaging, to protect it from light exposure.

2. Avoid prolonged exposure to fluorescent or other types of lighting during transport to prevent discoloration.
3. Implement thorough cleaning and sterilization methods for transport to sterile areas; avoid UV sterilization.
4. Switch off UV lamps when transferring through UV-sterilized windows.

## | PRODUCT APPLICATION

1. Preparation of cell culture-related reagents.
2. Preparation of blocking solution and diluent in immune reactions.
3. Development and production of antibodies, viruses, and vaccines.

## | Q&A

### **Q1: What is the best way to store serum?**

**A:** Serum for long-term storage should be stored in a refrigerator at -10°C or lower. It is recommended not to store serum at -80°C due to the significant temperature difference during thawing, which can lead to more precipitation. Serum should not be stored at 4°C for more than one month. If a bottle cannot be used at once, it is advised to store it in separate packages to avoid repeated freezing and thawing. The frozen volume of the serum will increase by about 10%, so reserve some space.

### **Q2: How to thaw serum without compromising product quality?**

**A:** Thaw the frozen serum in a refrigerator at 4°C, and then transfer it to room temperature to thaw completely. During the thawing process, shake evenly to ensure uniform temperature and ingredient distribution, reducing the occurrence of precipitation.

### **Q3: What should I do if flocculent precipitates are found after the serum is thawed?**

**A:** The sediment is primarily due to lipoprotein denaturation and fibrin precipitation in the serum. It does not affect the quality of the serum and can be removed by centrifugation at 500-1000×g for 5-10 minutes, or it can be left untreated.

### **Q4: How to distinguish the precipitation from contamination of serum?**

**A:** After standing for a period, the upper layer of precipitation will be clear, while contamination will remain turbid.

**Q5: What is the precipitate in the serum?**

**A:** Various types of precipitates can occur in fetal bovine serum (FBS) and other serum products used for cell culture, with the most common being fibrin and calcium phosphate.

- Fibrin: Appears as large, flocculent precipitates visible to the naked eye.
- Calcium phosphate: Observed as small black particles under a microscope, often mistaken for microbial contamination due to Brownian motion.

Precipitation in serum is generally unpredictable and uncontrollable. However, these precipitates do not compromise the quality or performance of the serum.

## **| DISCLAIMER**

1. The product should be used according to the instructions in the manual. If the experimenter fails to operate according to the instructions, our company will not be responsible for any deviation in product performance caused by this.
2. The product is only used for scientific research and commercial production and is not suitable for clinical diagnosis and treatment. Otherwise, all consequences arising shall be borne by the experimenter, and our company shall not be responsible.