ExCell Bio
依科赛生物

ExCell Bio

Fetal Bovine Serum（Standard）

User Manual

Catalog Number FSS500

FSS100

FSS050

Product description

Fetal bovine serum (FBS) is a clear straw to amber liquid separated from fetal bovine blood after coagulation and the removal of fibrinogen and certain coagulation factors from plasma. It is a by-product of the meat processing industry.

Fetal bovine serum is the most used natural medium in cell culture and contains abundant nutrients necessary for cell growth and has extremely important functions. The general addition ratio is 5-20%. Serum contains various amino acids, vitamins, inorganic substances, lipids and other nutrients necessary to maintain cell growth, as well as insulin, hydrocortisone, and dexamethasone, bFGF, EGF, PDGF, transferrin and other hormones that can promote cell growth, growth factors and binding.

ExCell Bio fetal bovine serum is collected from healthy cattle in non epidemic areas, and is made through aseptic collection, batch mixing, and triple 100 nm filtration. It does not contain mycoplasma and bovine viruses such as BVDV, PI3, IBR, and BTV.

Applications

一. Preparation of cell culture-related reagents

二. Preparation of blocking solution and diluent in immune reaction

三. Development and production of antibodies, viruses, and vaccines

Specifications

Catalog No.	Size	Origin
FSS500	500 mL	Uruguay
FSS100	100 mL	Uruguay
FSS050	50 mL	Uruguay

Storage

-20℃ can be stored for 5 years

Q&A

1. What is the best way to store serum?

A：Serum that needs to be stored for a long time must be stored in a refrigerator at -20°C or lower. Studies have shown that serum stored at -80°C has no change in performance, but the huge temperature difference during thawing will lead to more precipitation. Therefore, storage at -80°C is not recommended. Serum should not be stored in a refrigerator at 4°C for more than 1 month. If you cannot use up one bottle at a time, it is recommended to store it in separate packages to avoid repeated freezing and thawing, and the frozen volume of the serum will increase by about 10%, please reserve a certain volume space.

2. 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 everything. Shake regularly during the melting process to make the temperature and ingredients uniform and reduce the occurrence of precipitation.

3. What should I do if flocculent precipitates are found after the serum is thawed?

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

4. What is the role of heat-inactivated serum?

A: Heating can inactivate the complement system. Complement participates in the following reactions: cytotoxicity, contraction of smooth muscle cells, release of histamine from cells and platelets, increased phagocytosis, and promotion of chemotaxis and activation of lymphocytes and macrophages. Heat-inactivated serum is recommended for culturing insect cells and smooth muscle cells.

5. How to distinguish the precipitation and contamination of serum?

A: After the former is left standing for a period of time, the upper layer of the serum is clear, while the latter is always turbid.

6. Does the quality of serum from Australia better than that from South America?

A: Not necessarily, the quality of the serum is not necessarily related to the place of origin. In addition, there is no best serum, only the most suitable serum.

7. What is the precipitate in the serum?

A：Various types of precipitates exist in fetal calf serum and other serum products used for cell culture, the common ones are fibrin and calcium phosphate. Fibrin is usually a large substance (up to 1-2 mm) visible to the naked eye, that is, flocculent precipitates; calcium phosphate is observed as small black spots under the microscope, and is usually mistaken for microbial contamination due to Brownian motion. Precipitation in serum is often difficult to predict and control, but fortunately these precipitations will not affect the quality of serum.