

## Fetal Bovine Serum Heat Inactivated

### Collected from the source :

When searchers choose their serum an important factor that should be taken into consideration is the source, which also emphasises the traceability of the serum.

Our system of vertical integration allows us to be certain of the origins and traceability of our FBS.

Each manufactured batch is rigorously controlled, from the collection of serum and throughout all stages of its treatment and production through to final packaging on our premises.

BioWest Fetal Bovine Serum is derived from clotted whole blood aseptically collected from fetus via cardiac puncture.

The serum is collected or imported and treated in agreement with the European regulations.

### Filtration :

Final Filter Size: 0.1µm, x 3

### Sterility :

All sera are tested for the absence of aerobic and anaerobic bacteria, fungi, yeast and *Mycoplasma*.

The sterility test is based on the European Pharmacopoeia requirements.

The sera are tested for the absence of *Mycoplasma* by culture.

### Virus Tested :

All of our sera are tested for:

- Bovine Viral Diarrhoea (BVD)
- Cytopathogenic agents e.g. Infectious Bovine Rhinotracheitis (IBR) / BHV-1
- Hemadsorbing agents e.g. Parainfluenza Type 3 (PI3)

Sera are tested for the absence of the indicated viruses by inoculation to permissive cells. The revelation is made by immunofluorescence for pestiviruses. Cytopathogenic agents and hemadsorbing agents are detected by microscopic observations.

### Endotoxin :

All sera are tested to determine the levels of endotoxins. BioWest carries out a chromokinetic quantitative test, according to the method D of the European Pharmacopoeia.

The endotoxin reagent is standardized against the US reference endotoxin.

Endotoxin specification: < 30 EU/ml

### Haemoglobin :

The haemoglobin level is measured by spectrophotometer.

Haemoglobin specification: <30 mg/100ml

### pH:

pH specification: 6.8 to 7.8

### Osmolality :

Determined by a lowered freezing temperature. The osmometer is calibrated against standard solutions.

Osmolality specification: 275 to 345 mOsm/kg

### Total Protein :

Determined by Biuret Colorimetry.

Protein specification: 30 to 45 g/l

**Cell Culture :**

Biological performance is assessed using cell culture medium supplemented with the serum being tested.

During the test period, cultures are examined microscopically for any morphological abnormalities that may indicate toxic components in the serum.

**Cell Culture Tests :**

Cell Growth, Plating Efficiency, Cloning Efficiency.

**Cell Lines Tested :**

The following cell lines are tested with the serum:

- HELA -Cancer Cell/Human.
- L929 -Fibroblast-Mouse/ As Macrophage
- SP2/O-AG14 -Mouse/Lymphoma
- MRC- 5 -Human/Lung.

**Heat inactivation :**

Sera are heat inactivated to inactivate complement. The complement can lead to complement-mediated cell lysis. Immunological studies justify the need to heat inactivate the serum. The treatment is a heating of the serum at 56°C during 30 minutes.

This treatment can modify the colour of the serum. This is normal and it does not compromise the quality of the product for the cell culture.

Note : To heat the serum during a long period can reduce or destroy the growth factors. It can also increase the build of precipitates that are frequently confounded with contamination.

**Effects of the heat inactivation :**

- Destruction of proteins
- Precipitation of fibrin
- Destruction of fibrinogen
- Deterioration total or partial of vitamins
- Decrease of the growth factors concentration
- Destruction of the LDH
- Decrease of the amylase concentration
- Destruction of the alkaline phosphatase
- Deterioration of the IgG, IgE, IgM
- Inactivation of viruses
- Inactivation of T4 Phage
- Inactivation of mycoplasma
- Increase of oxidation and catalysis reactions.

The chemical composition of the serum is not altered.

**Country of Origin :**

The country in which the serum was taken from the donor/animal.

Serox serum reference S1810 is sourced from South America

**Storage conditions :** - 20°C

**Shelf life :** 5 years

**Recommended use :**

- Respect storage conditions of the serum
- Do not use the serum after its expiry date
- Store serum in an area protected from light
- Manipulate serum in aseptic conditions (e.g. : under laminar air flow)

- Wear clothes adapted to the manipulation of serum to avoid contamination (e.g. : gloves, mask, hygiene cap, overall...)
- In order to preserve all serum qualities, it is recommended to thaw out the flask, to aliquote, then to re-freeze the produced flasks rather than to thaw out and re-freeze the flask at each use.
- It is recommended to use the serum immediately after its thaw out. However, if it is not useful, it is possible to store thaw out serum, at +2°C / +8°C, until 26 weeks without significant decrease of its performances in cell culture.

The product is intended to be used in vitro, in laboratory only. Do not use it in therapy, human or veterinary applications.

**Note:**

The raw serum may be gamma irradiated before filtration for different reasons:

- Importation regulation
- Exportation necessity
- Technical or quality aspects.

To be informed if your batch is concerned by the gamma irradiation before filtration, please contact Biowest.