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Fetal Bovine Serum Charcoal Stripped

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 : 0.2µm

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 (Pl3)

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.

Haemoglobin :
The haemoglobin level is measured by spectrophotometer.

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

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.

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.

Total Protein :
Determined by Biuret Colorimetry.

Treatment :
Charcoal stripped serum is treated by filtering chilled serum through an activated carbon adsorbent filter to remove non-polar material. This treatment removes lipophilic material but has little effect on the concentration of salts dissolved in the serum.

Applications :
BioWest offers Charcoal / Dextran stripped foetal bovine serum for researchers requiring low levels of various hormones. Charcoal / Dextran stripping reduces the concentration of steroid hormones in serum eg estradiol, progesterone, cortisol, testosterone, T3 and T4. It has been demonstrated and used in numerous studies both *in vivo* and *in vitro* (e.g., 1,2,3,4). So this serum is useful for utilisation in receptor studies, oestrogen related investigations, or when endogenous steroid hormones may interfere with experimental work.
In addition, Charcoal / Dextran treatment has been demonstrated to improve immunoassay systems (5,6,7,8,9,10,11) ; Herbert, et al. (12) showed that the use of Charcoal / Dextran improved insulin assay methods.
Moreover, some studies indicate that Charcoal / Dextran treatments may be used to minimise lot to lot serum variability.

This serum may show some reduced growth promotion of cells requiring the presence of certain hormones and growth factors.
The level of endotoxin is in general higher than non treated serum because of the endotoxins in the charcoal and in the dextran.

Country of Origin :
The country in which the serum was taken from the donor/animal.
BioWest sera are sourced from the following countries

Canada	Australia	South America
Japan Approved	Denmark	France
Central America	EU Approved	

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.

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