Ref : FT.S0400an
Version date : 20/07/17

Calf Serum and Donor Calf 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 Calf and Donor Calf Serum.
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. Serox Calf Serum is derived from clotted whole blood collected from calf with cleaned and disinfected equipment. Serox Donor Calf Serum is derived from clotted whole blood aseptically collected from donor calf via the vein. The blood is centrifuged and the supernatant called "serum" is put in jugs before freezing.
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.
The antibodies are tested by an Elisa method.

Endotoxin :
All sera are tested to determine the levels of endotoxins. Serox 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 Lines Tested :
The following cell lines are tested with the serum:
HELA -Cancer Cell/Human.
L929 -Fibroblast-Mouse/ As Macrophage
SP2/0-AG14 -Mouse/Lymphoma

Total Protein :
Determined by Biuret Colorimetry.

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

France or Canada
Canada

Storage conditions :
Store at -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.

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.