

Fetal Bovine Serum, Collected in South America, Delipidated

General information

Serum is the blood component that can be obtained after coagulation and by removing cellular components. Besides serum proteins it contains, e.g. growth factors, amino acids and hormones. This comprehensive mix makes serum one of the most important supplements, supporting cells to grow and proliferate in vitro cell culture.

Of special interest is the fetal bovine serum (FBS). It is especially rich in growth factors and is particularly low in antibodies, which may influence the cell culture work.

In order to remove lipids from FBS, the fumed silica precipitation method is used. Fumed silica is added to serum; non-polar substances such as lipids and steroids will adsorb to the surface of fumed silica. The solution is then centrifuged and the pellet of silica with adsorbed lipids is removed. The serum is then sterile-filtered. The acceptance criterion for the treatment is a level of cholesterol lower than 10 mg/100 ml. Lipids and other non-polar substances will be reduced in comparison to non-treated serum.

Product specifications

pH	6.8 – 8.2
Osmolality	280 – 340 mOsm/kg
Endotoxin	As reported
Hemoglobin	≤ 25 mg/dl
Cholesterol	≤ 10 mg/dl
Total Protein	3.0 – 4.5 g/dl
Albumin	As reported
IgG	As reported
Mycoplasma	Not detected
Virus tested for	PI-3, BVDV, BHV-I
Sterility	Tested
Storage	Store at ≤-15 °C.

Additional optional treatments

Heat inactivation

Heat inactivation will inactivate the complement system, antibodies and other active enzymes. It has to be done in a carefully controlled process in order to avoid damaging the cell growth promoting properties of the serum and reducing the formation of unwanted precipitates.

The process involves heating the serum in a shaking water bath at exactly +56 °C for 30 minutes. The shaking will help avoid the formation of protein and other forms of precipitates. After 30 minutes the serum is then cooled back down to room temperature as quickly as possible to avoid excessive exposure to heat which can damage e.g. growth factors and vitamins.

Gamma irradiation

LT Biotech has established process parameters and controls for maximum inactivation of contaminants by an innovative gamma irradiation process in small sized boxes at 25 – 35 kGy. When FBS bottles are arranged in a pallet during gamma irradiation, high irradiation doses (58 kGy) are necessary to irradiate the centrally located bottles with the required doses (>30 kGy). This and the associated higher temperatures may affect the serum quality. If the irradiation is performed in single boxes, the maximum dose of irradiation is performed in single boxes, the maximum dose of irradiation does not exceed 38.7 kGy. Gentle irradiation as used by LT Biotech is less likely to affect final serum quality.

Quality control

Only sera batches which pass our strict quality control are released for sale. Standard parameters which are determined include pH, osmolality, content of protein, albumin, IgG and hemoglobin, endotoxin level, sterility, mycoplasma detection and virus testing.

Precautions and disclaimer

This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Ordering information

Catalogue number	Pack size
LTFBS-SA500De	500 ml
LTFBS-SA100De	100 ml

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