Product Information

Fetal Bovine Serum Premium – Special Sera

Product Description

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.

Cegrogen offers a variety of different treated or pre-tested Fetal Bovine Sera.

Product	Origin	Volume	Cat. No.
Fetal Bovine Serum ES cell pre-tested	Collected in South America	100 ml	A0100-3018
		500 ml	A0500-3018
Fetal Bovine Serum Tetracycline Negative	Collected in South America	100 ml	A0100-3050
		500 ml	A0500-3050
Fetal Bovine Serum Gamma Irradiated	Collected in South America	100 ml	A0100-3040
		500 ml	A0500-3040
Fetal Bovine Serum Charcoal Stripped	Collected in South America	100 ml	A0100-3070
		500 ml	A0500-3070
Fetal Bovine Serum Dialysed	Collected in South America	100 ml	A0100-3060
		500 ml	A0500-3060
Fetal Bovine Serum Delipidated	Collected in South America	100 ml	A0100-3080
		500 ml	A0500-3080
Fetal Bovine Serum Low Endotoxin	Collected in South America	100 ml	A0100-3011
		500 ml	A0500-3011
Fetal Bovine Serum Heat Inactivated	Collected in South America	100 ml	A0100-3030
		500 ml	A0500-3030

Product Specifications

pH	6.8 – 8.2
Osmolality	240 – 340 mOsm/kg
Endotoxin	As reported
Endotoxin (A0100-3011; A0500-3011)	≤ 1 EU/ml
Total Protein	3.0 – 4.5 g/dl
Albumin	As reported
Hemoglobin	As reported
Mycoplasma	Not detected
Virus tested for	PI-3, BVDV, BVDV-AB, BHV-I
Sterility	Tested
Storage	Store at ≤-15°C

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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

Cegrogen Biotech has established process parameters and controls for maximum inactivation of contaminants by an innovative gamma irradiation process in small sized boxes at 25 – 35kGy. 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 does (>30 kGy). This and the associated higher temperatures may affect the serum quality. If the irradiation is performed in single boxes, the maximum does of irradiation is performed in single boxes, the maximum dose of irradiation does not exceed 38.7 kGy. Gentle irradiation as used by Capricorn Scientific is less likely to affect final serum quality.

Delipidation

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 to fumed silica. The solution is then centrifuged and the pellet of silica with adsorbed lipids is removed. The Serum is then sterile-filtered.
The acceptation criterion for the treatment is a level of cholesterol lower than 10 mg/100ml. Lipids and other non-polar substances will be reduced in comparison to non-treated serum.

ES cell- Pretested Sera

Embryonic stem (ES) cells are particularly demanding and it is crucial to keep them in their valuable undifferentiated state. When working with stem cells maintenance of pluripotency and reduced differentiation are the main objectives.
Historically, EC cell researchers were required to screen laboriously several lots of serum to find one suitable for their cells. Cegrogen Biotech offers ES Cell Pretested FBS to minimize the need for prescreening serum, saving both time and money, while providing the assurance that the serum used has been screened by experienced ES cell culturists. The screening includes growth promotion, colony morphology, and cytotoxicity. ES Cell Pretested FBS is selected from our highest quality FBS lots.

Features:

- Tested on murine embryonic stem cells
- Selected from highest quality FBS lots
- Strict quality control
- Consistent quality

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Low Endotoxin

Fetal Bovine Serum, Low Endotoxin is a selected FBS featuring an endotoxin level lower than 1 EU/ml. This makes it especially suitable for sensitive cells, primary cell culture and hybridoma cloning.

TET Negative Serum

Cegrogen Biotech has established a test with an external test laboratory, using liquid chromatography tandem mass spectroscopy to detect all kinds of tetracycline. This method allows an accurate detection of Chlortetracycline and the Oxytetracycline in a range of 0.05 mg/l.

This product is used in cell culture applications using TET-inducible gene expression systems, and other applications in which the presence of tetracycline would prove disruptive.

Charcoal Stripped Serum

Fetal Bovine Serum Charcoal Stripped is produced by filtering through an activated carbon absorbent filter resulting in reduced concentrations of steroid hormones such as estradiol, progesterone, cortisol, testosterone, T3 and T4 without nonspecific loss of other serum components. This product is useful for studying processes influenced by steroid hormones (estrogen stimulation, obesity process) and other research topics that benefit from reduced hormone levels such as certain types of viral infections.

Dialysed Serum

While whole serum is acceptable for routine processes, studies involving nutritional parameters or incorporation of labeled material (e.g. radioactive amino acids) require the precise removal of certain constituents. The most commonly used method for removal of these constituents is dialysis of whole serum. Dialysis is performed with a cut off of 10 kDa.

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.