

Fetal Bovine Serum Tetracycline Negative, Collected in South America

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.

LT Biotech has established a test with an external test laboratory, using liquid chromatography tandem mass spectrometry 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.

Product specifications

pH	6.8 – 8.2
Osmolality	280 – 340 mOsm/kg
Endotoxin	As reported
Hemoglobin	≤ 25 mg/dl
Tetracycline/-derivates	≤ 0.5 µg/ml
Total Protein	3.0 – 4.5 g/dl
Albumin	As reported
IgG	As reported
Mycoplasma	Not detected
Virus tested for	PI-3, BVDV, BVDV-AB, 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.

Ordering information

Catalogue number	Pack size
LTFBS-SA500TCN	500 ml
LTFBS-SA100TCN	100 ml

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