

CERTIFICATE OF ANALYSIS

Product: FETAL BOVINE SERUM	Lot No: FBU11000
PREMIUM QUALITY - USA ORIGIN	Expires: 11-2016
STERILE FILTERED	Catalog Numbers: FB02-50, FB02-100, FB02-500

This product is for further manufacturing use. It is not intended for human or animal therapeutic use. This serum product was processed at FDA licensed facilities and collected from abattoirs inside the United States of which are inspected and approved by the United States Department of Agriculture, from bovine fetuses derived from healthy animals, which received ante-mortem and post-mortem inspections and were found to be free of signs and symptoms of infectious and contagious diseases.

ELECTROPHORESIS

TEST	TEST METHOD	SPECIFICATIONS	RESULTS
Electrophoretic Pattern	Cellulose Acetate	Normal	Normal
Total Protein	Biuret	30 – 45 g/L	38 g/L
Albumin	Gel Electrophoresis	As Reported	23.5 g/L
Globulins	Gel Electrophoresis	As Reported	14.5 g/L

PHYSICAL AND CHEMICAL ANALYSIS

TEST	TEST METHOD	SPECIFICATIONS	RESULTS
pH	Potentiometric	6.80 – 8.20	7.0
Osmolality	Freezing Point Depression	280 – 340 mOsm/Kg	329 mOsm/Kg
Total Protein	Biuret	30 – 45 g/L	38 g/L
IgG Content	Elisa	< 250 mg/L	135 mg/L
Endotoxin	USP <85>	< 10.0 EU/ml	< .05 EU/ml
Hemoglobin	Spectrophotometric	≤ 20.0 mg/dL	7.3 mg/dL
Glucose	Glucose Oxidase / Peroxidase	As Reported	6.2 mmol/L
Sodium	Ion Selective Electrode	As Reported	129 mmol/L
Potassium	Ion Selective Electrode	As Reported	14.4 mmol/L
Chloride	Indirect ISE	As Reported	97 mmol/L
Urea	Urease / Glutamate Dehydrogenase	As Reported	4.8 mmol/L
Creatinine	Alkaline Picric Acid	As Reported	213 µmol/L
Uric Acid	Enzymatic Colorimeter	As Reported	113 µmol/L
Calcium	Cresolphthalein Complexone	As Reported	2.95 mmol/L
Phosphorus	Ammonium Molybdate	As Reported	2.7 mmol/L
Bilirubin	Diazo	As Reported	2.8 µmol/L
Alkaline Phosphatase	Colorimetric	As Reported	123 U/L
ALT (SGPT)	Int'l Federation of Clinical Chemistry	As Reported	3 U/L
AST (SGOT)	Int'l Federation of Clinical Chemistry	As Reported	15 U/L
GGT	Enzymatic Colorimetric	As Reported	4 U/L
LDH	Gay's Lactate	As Reported	344 U/L
Cholesterol	Cholesterol Esterase / Oxidase/ Peroxidase	As Reported	0.6 mmol/L
Triglycerides	Enzymatic	As Reported	0.52 mmol/L
Specific Gravity	Weight / Volume	≥ 1.010 g/mL	1.021 g/mL

VIRUS AND ANTIBODY TESTING

TEST	TEST METHOD	SPECIFICATIONS	RESULTS
Bovine Virus Diarrhoea (BVD)	9 CFR 113.53	Not Detected	Not Detected
HA	9 CFR 113.53	Not Detected	Not Detected
CPE	9 CFR 113.53	Not Detected	Not Detected
Bovine Parvo	9 CFR 113.53	Not Detected	Not Detected
Bovine Adeno 3	9 CFR 113.53	Not Detected	Not Detected
Bovine Adeno 5	9 CFR 113.53	Not Detected	Not Detected
Bovine Respiratory Syncytial Virus (BRSV)	9 CFR 113.53	Not Detected	Not Detected
REO Virus	9 CFR 113.53	Not Detected	Not Detected
Rabies	9 CFR 113.53	Not Detected	Not Detected
Blue Tongue	9 CFR 113.53	Not Detected	Not Detected
BVD Antibody	Serum Neutralization	As Reported	< 1:2
PI-3 Antibody	Serum Neutralization	As Reported	< 1:2
IBR Antibody	Serum Neutralization	As Reported	< 1:2
BRSV Antibody	Serum Neutralization	As Reported	< 1:2

MICRO-ORGANISM TESTING

TEST	TEST METHOD	SPECIFICATIONS	RESULTS
Sterility	USP <71>	No Evidence of Microbial Growth	No Evidence of Microbial Growth
Mycoplasma	Large Volume Direct Culture	Not Detected	Not Detected
Mycoplasma	FDA Points to Consider 1993	Not Detected	Not Detected

PERFORMANCE TESTING

Population	Diploid Cell Line	Pass	Pass
Plating Efficiency	Diploid Cell Line	Pass	Pass
Cell Toxicity	Diploid Cell Line	None	None
Growth Promotion	Diploid Cell Line	≥ 75 % Control	99.5 %

* Disclaimer – The above testing methods and specifications have been updated as of November 1, 2011. This Certificate of Analysis is only an example. Test methods, specifications and results will differ from lot to lot of Fetal Bovine Serum. Certificates of Analysis for a specific lot of Fetal Bovine Serum may be obtained by contacting us toll free at (888) 588-8115 or by calling (704) 588-6607.