

CERTIFICATE OF ANALYSIS

NorthBio

FETAL BOVINE SERUM

Ultra Low Endotoxin

Canadian Origin

Lot # : SF17057

Catalog # : NBSF-701

Lot Expiry : November 2016

Test	Test Method	Specification	Result
<i>Sterility and Endotoxin</i>			
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
Endotoxin	USP <85> LAL Gel Clot	< 0.05 EU/ml	< 0.05 EU/mL
<i>Viral Safety Testing</i>			
BVD (cytopathic)	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
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	1:32
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
<i>Biochemistry</i>			
Total Protein	Biuret	30 – 45 g/L	38 g/L
Albumin	Gel Electrophoresis	As Reported	20.8 g/L
Globulins	Gel Electrophoresis	As Reported	17.3 g/L
Bilirubin	Diazo	As Reported	2.3 µmol/L
ALT	Int'l Fed.Clinical Chemistry	As Reported	6 U/L
AST	Int'l Fed. Clinical Chemistry	As Reported	31 U/L
LDH	Gay's Lactate	As Reported	649 U/L
Cholesterol	Cholesterol esterase/oxidase/perox	As Reported	0.8 mmol/L
Glucose	Glucose oxidase/peroxidase	As Reported	7.9 mmol/L
Urea	Urease/glutamate dehydrogenase	As Reported	5.8 mmol/L
Creatinine	Alkaline Picric Acid	As Reported	282 µmol/L
Sodium	Ion Selective Electrode	As Reported	138 mmol/L
Potassium	Ion Selective Electrode	As Reported	11.3 mmol/L
Calcium	Cresolphthalein Complexone	As Reported	3.55 mmol/L
Phosphorus	Ammonium Molybdate	As Reported	3.1 mmol/L
Osmolality	Freezing Point Depression	280 – 340 mOsm/Kg	317 mOsm/Kg
Serum Identity	Ouchterlony	Bovine	Bovine
Electrophoretic	Cellulose Acetate	Normal	Normal
IgG	Elisa	< 250 mg/mL	105 mg/L
Hemoglobin	Spectrophotometric	≤ 20.0 mg/dL	4.2 mg/dL
pH	Potentiometric	6.80 – 8.20	7.16
Specific Gravity	Weight / Volume	≥ 1.010 g/mL	1.023 g/mL
ALP	Colorometric	As Reported	194 U/L
GGT	Enzymatic Colorometric	As Reported	6 U/L
Chloride	Indirect ISE	As Reported	99 mmol/L
Uric Acid	Enzymatic Colorometric	As Reported	190 µmol/L
Triglyceride	Enzymatic	As Reported	0.79 mmol/L

NORTHBIO INC. | TEL 1 888 428-9775
 TORONTO ON CANADA | FAX 1 888 857.9775
 M5R 2E3 | EM: INFO@NORTHBIO.COM

CERTIFICATE OF ANALYSIS

FETAL BOVINE SERUM
Ultra Low Endotoxin
Canadian Origin

Lot # : SF17057
Catalog # : NBSF-701
Lot Expiry : November 2016


Test	Test Method	Specification	Result
<i>Cell Culture Performance</i>			
Plating Efficiency	Diploid Cell Line	Pass	Pass
Population Dblg	Diploid Cell Line	Pass	Pass
Cell Toxicity	Diploid Cell Line	None	None
Growth Promotion	Diploid Cell Line	≥ 75 % of in house control	97.6 %
Appearance	Visual	Clear yellow-amber	Complies

Statement of Origin

THIS SERUM HAS BEEN DERIVED FROM BLOOD ASEPTICALLY COLLECTED IN APPROVED ABBATOIRS. THE SERUM WAS ASEPTICALLY PROCESSED AND FILTER STERILIZED IN CANADA IN A FACILITY REGISTERED WITH MEDICAL DEVICES (U.S.) FOLLOWING GUIDELINES OF F.D.A. AND H.P.F.B. (CANADA). THE COUNTRY OF ORIGIN OF THE CRUDE BLOOD (DONOR COW) IS CANADA

FEBRUARY 28, 2012

DATE


C. BROHMAN, QUALITY ASSURANCE

NORTHBIO INC. | TEL 1 888 428-9775
TORONTO ON CANADA | FAX 1 888 857.9775
M5R 2E3 | EM: INFO@NORTHBIO.COM