



## CERTIFICATE OF ANALYSIS

### Fetal Bovine Serum

### Premium Select

(Catalog Number S11550, S11595)

Lot Number: A325009

Date of Manufacture: Jun2025

Product Expiry: Jun2030

Origin: Costa Rica

Storage Temperature:  $\leq -10^{\circ}\text{C}$

For cell culture, further manufacturing or research use only. Not for direct therapeutic use.

**Product Description:** Fetal Bovine Serum *Premium Select* is a triple 0.1  $\mu\text{m}$  filter processed serum.

**Notice:** The serum was collected and processed rapidly at cold temperatures to yield the highest quality serum with excellent cell growth properties. This cold processing leaves some fibrinogen in the serum which may convert to fibrin upon storage, thawing, or heat-inactivation. Fibrin can cause the serum to look slightly turbid or may be visible as a flocculent material. This material does not adversely affect the growth performance characteristics of the serum.

Test	Methodology	Specification	Analysis
Bacterial and Fungal Testing	U.S.P. Modified	Not Detected	Not Detected
Mycoplasma Testing	Large Volume Barile Method	Not Detected	Not Detected
Mycoplasma Testing, Supplemental	DNA Fluorochrome Stain	Not Detected	Not Detected
Viral Testing	Full 9CFR		
BVDV – Fluorescent Antibody		Test	Tested
Cytopathogenic Agents - e.g. IBRV		Not Detected	Not Detected
Hemadsorbing Agents - e.g. PI-3V		Not Detected	Not Detected
BTV		Not Detected	Not Detected
BRSV		Not Detected	Not Detected
Bovine Parvo		Not Detected	Not Detected
Bovine Adenovirus		Not Detected	Not Detected
Reo Virus		Not Detected	Not Detected
Rabies Virus		Not Detected	Not Detected
Cell Culture Testing	MTT Assay	Pass	Pass
pH	USP<791> & EP 2.2.3	6.8 – 7.8	7.13
Osmolality	USP <785> & EP 2.2.35	280 – 335 mOsm	311 mOsm
Endotoxin	USP <85> & EP 2.6.14	$\leq 15.0$ EU/mL	<0.1 EU/mL
Hemoglobin	USP <90>	$\leq 15$ mg/dL	8.10 mg/dL



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Hormone Profile			
Insulin		Check and Record	6.15 µIU/mL
Progesterone		Check and Record	<0.1 ng/mL
Testosterone		Check and Record	<0.01 ng/mL
Thyroxine (T4) - total		Check and Record	12 µg/dL
Biochemical Profile			
Total Protein	USP <1057> & EP 2.5.33	3.0 – 4.6 g/dL	3.6 g/dL
Albumin	Cellulose Acetate Electrophoresis	Check and Record	2.1 g/dL
Globulin	Cellulose Acetate Electrophoresis	Check and Record	1.5 g/dL
A/G ratio	Cellulose Acetate Electrophoresis	Check and Record	1.46
IgG	ELISA	Check and Record	0.1029 mg/mL
ALT/SGPT		Check and Record	4 IU/L
GGT	Chemistry Analyzer	Check and Record	5 IU/L
Alkaline Phosphatase		Check and Record	276 IU/L
Total Bilirubin		Check and Record	0.2 mg/dL
Iron		Check and Record	163 µg/dL
UIBC		Check and Record	97 µg/dL
Cholesterol		Check and Record	30 mg/dL
Triglycerides		Check and Record	58 mg/dL
Glucose		Check and Record	67 mg/dL
Blood Urea Nitrogen (BUN)		Check and Record	18 mg/dL
Creatinine		Check and Record	2.9 mg/dL
BUN/Creatinine Ratio		Check and Record	6.21
Uric Acid		Check and Record	1.3 mg/dL
Sodium		Check and Record	152 mmol/L
Potassium		Check and Record	11.2 mmol/L
Sodium/Potassium Ratio		Check and Record	13.57
Chloride		Check and Record	109 mmol/L
Calcium		Check and Record	14.1 mg/dL
Phosphorus		Check and Record	9.0 mg/dL
Magnesium		Check and Record	3.2 mg/dL
Bicarbonate		Check and Record	15 mmol/L



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The fetal bovine serum used in the manufacturing process is certified as meeting all USDA requirements for donor animal health, country of origin, and traceability of the product.

**Origin:** The fetal bovine serum is collected in USDA approved slaughterhouses or in countries certified by the USDA to be free of Foot and Mouth Disease (FMD) and other exotic disease agents. All imported serum used for manufacturing purposes is Safety tested and approved by the USDA for distribution in the United States.

**TSE/BSE Statement:** Product-specific validated virus removal studies have not been conducted for the majority of offered items. Statements to confirm that a product is "free of TSE/BSE" are not scientifically possible; consequently, we cannot state definitively that a material is TSE/BSE free. This product does contain animal-derived raw materials and GeminiBio maintains information confirming these materials are sourced from countries considered as negligible or controlled (Canada) risk for BSE by the World Organisation for Animal Health.

**Donor Animals:** All fetal blood is collected from fetuses derived from healthy animals. The donor dams must pass both ante- and post-mortem certified veterinary inspections before collection of the fetal blood.

**Traceability:** The serum has been imported into the United States in full compliance with all USDA import regulations. Final processing of the serum took place in a processing facility located in the United States. All fetal bovine serum is traceable to the date and location of collection.

The testing that has been performed as part of this lot release has been reviewed by Quality Assurance personnel and has confirmed that the testing meets the specifications presented on this Certificate of Analysis.

Alejandra Peña  
Name

04SEP2025  
Date

QA Associate II  
Title