



**GeminiBio**

## CERTIFICATE OF ANALYSIS

### BenchMark™ Fetal Bovine Serum

(Catalog Number 100-106)

Lot Number: A424023

Date of Manufacture: SEP2023

Product Expiry: SEP2028

Origin: Mexico

Storage Temperature: ≤ -10°C

For Cell Culture, further Manufacturing or Research use only. Not for direct Therapeutic use.

Product Description: BenchMark™ Fetal Bovine Serum is sterile-filtered through a 0.1 µm filter prior to freezing.

Test	Methodology	Specification	Analysis
<b>Biological Testing</b>			
Endotoxin		<10.0 EU/mL	<0.50 EU/mL
Hemoglobin		<20.0 mg/dL	4 mg/dL
<b>Microbiological Testing</b>			
Sterility			
Bacteria		No Growth	No Growth
Fungi		No Growth	No Growth
Mycoplasma		Not Detected	Not Detected
<b>Viral Testing</b>			
	9CFR 113.53c [113.46, 113.47]		
Cytopathic Agents		Not Detected	Not Detected
Hemadsorbing Agents		Not Detected	Not Detected
Extraneous Viruses (FAB)			
Bluetongue Virus		Not Detected	Not Detected
Bovine Adenovirus		Not Detected	Not Detected
Bovine Parvovirus		Not Detected	Not Detected
Bovine Viral Diarrhea (Cytopathic)		Not Detected	Not Detected
Bovine Respiratory Syncytial Virus		Not Detected	Not Detected
Rabies Virus		Not Detected	Not Detected
Reovirus		Not Detected	Not Detected
<b>Physical Testing</b>			
Electrophoretic Pattern		Normal	Normal
Osmolality		260 – 350 mOsm/ kg	317 mOsm/kg
pH		6.5 – 8.5	7.17
<b>Biochemistry</b>			
Albumin		Test and Report	2.4 g/dL
Alkaline Phosphatase		Test and Report	233 U/L
ALT (SGPT)		Test and Report	4 U/L
AST (SGOT)		Test and Report	30 U/L
GGT		<10 U/L	5 U/L



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Test	Methodology	Specification	Analysis
Bilirubin, Total		Test and Report	0.1 mg/dL
BUN		Test and Report	16 mg/dL
Calcium		Test and Report	13.5 mg/dL
Chloride		Test and Report	98 mmol/L
Cholesterol		Test and Report	33 mg/dL
Cortisol		Test and Report	0.902 µg/dL
Creatinine		Test and Report	2.70 mg/dL
Glucose		Test and Report	139 mg/dL
IgG		<0.300 mg/mL*	0.0407 mg/mL
Insulin		Test and Report	9.16 µIU/mL
Iron, Serum		Test and Report	161 µg/dL
Phosphorus		Test and Report	10.3 mg/dL
Potassium		Test and Report	12.4 mmol/L
Progesterone		Test and Report	<0.06 ng/mL
Protein, Total		2.5 – 6.0 g/dL	3.7 g/dL
Sodium		Test and Report	138 mmol/L
Testosterone		Test and Report	<0.01 ng/mL
T3		Test and Report	242 ng/dL
T4		Test and Report	13.8 µg/dL
Triglycerides		Test and Report	72 mg/dL
Uric Acid		Test and Report	2.8 mg/dL

Our fetal bovine serum meets all USDA requirements and has passed ante and post-mortem inspection by a licensed veterinarian. It is collected in countries recognized as being free of foot-and-mouth disease and rinderpest. The origin of all fetal bovine serum is traceable by lot number, date, and country of collection. Precipitates may develop in this product upon freezing and/or thawing; this occurrence does not impact culture performance. \*Some geographic regions may test higher than 0.300 mg/mL. If this be the case, refer to GGT results less than 10 U/L to ensure FBS purity.

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.

Korrina Nicewonger  
Name

16 APR 2024  
Date

QA Associate II  
Title