



CERTIFICATE OF ANALYSIS

BenchMark™ Fetal Bovine Serum

(Catalog Number 100-106)

Lot Number: A324002

Date of Manufacture: Mar2024

Product Expiry: Mar2029

Origin: Nicaragua

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
Biological Testing			
Endotoxin	LAL	<10.0 EU/mL	<0.231 EU/mL
Hemoglobin	USP <90>	<20.0 mg/dL	15.24 mg/dL
Microbiological Testing			
Sterility			
Bacteria	9CFR 113.26	No Growth	No Growth
Fungi	9CFR 113.26	No Growth	No Growth
Mycoplasma	PCR	Not Detected	Not Detected
Viral Testing	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
Physical Testing			
Electrophoretic Pattern		Normal	Normal
Osmolality	Osmometer	260 – 350 mOsm/kg	301 mOsm/kg
pH	pH Meter	6.5 – 8.5	7.4
Biochemistry Testing			
Albumin		Test and Report	1.7 g/dL
Alkaline Phosphatase	Chemistry Analyzer	Test and Report	389 IU/L
ALT (SGPT)	Chemistry Analyzer	Test and Report	11 IU/L
AST (SGOT)	Chemistry Analyzer	Test and Report	46 IU/L
GGT	Chemistry Analyzer	<10 U/L	5 IU/L
Bilirubin, Total	Chemistry Analyzer	Test and Report	0.1 mg/dL
BUN	Chemistry Analyzer	Test and Report	19 mg/dL
Calcium	Chemistry Analyzer	Test and Report	13.7 mg/dL
Chloride	Chemistry Analyzer	Test and Report	99 mEq/L



GeminiBio

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Cholesterol	Chemistry Analyzer	Test and Report	31 mg/dL
Cortisol		Test and Report	0.259 µg/dL
Creatinine	Chemistry Analyzer	Test and Report	2.8 mg/dL
Glucose	Chemistry Analyzer	Test and Report	50 mg/dL
IgG	ELISA	<0.300 mg/mL*	0.0982 mg/mL
Insulin		Test and Report	6.840 uIU/mL
Iron, Serum	Chemistry Analyzer	Test and Report	161 µg/dL
Phosphorus	Chemistry Analyzer	Test and Report	8.4 mg/dL
Potassium	Chemistry Analyzer	Test and Report	10.5 mEq/L
Progesterone		Test and Report	<0.06 ng/mL
Protein, Total	Chemistry Analyzer	2.5 – 6.0 g/dL	3.7 g/dL
Sodium	Chemistry Analyzer	Test and Report	137 mEq/L
Testosterone		Test and Report	<0.01 ng/mL
T3		Test and Report	65.3 ng/dL
T4		Test and Report	15.5 µg/dL
Triglycerides	Chemistry Analyzer	Test and Report	49 mg/dL
Uric Acid	Chemistry Analyzer	Test and Report	0.9 mg/dL

Our fetal bovine serum meets all USDA requirements and has passed ante and post-mortem inspection. 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.

Levi Immaas
Name

17OCT2024
Date

QC Associate
Title