



CERTIFICATE OF ANALYSIS
BenchMark™ Fetal Bovine Serum
(Catalog Number 100-106)

Lot Number: A122034

Date of Manufacture: Feb2022

Product Expiry: Feb2027

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		<10.0 EU/mL	0.381 EU/mL
Hemoglobin	USP <90>	<20.0 mg/dL	14.6 mg/dL
Microbiological Testing			
Sterility	9CFR 113.26		
Bacteria		No Growth	No Growth
Fungi		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	Cellulose Acetate	Normal	Normal
Osmolality		260 – 350 mOsm/ kg	302 mOsm/kg
pH		6.5 – 8.5	7.6



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Biochemistry			
Albumin		Test and Report	1.8 g/dL
Alkaline Phosphatase		Test and Report	393 IU/L
ALT (SGPT)		Test and Report	9 IU/L
AST (SGOT)		Test and Report	56 IU/L
GGT		<10 U/L	5.0 IU/L
Bilirubin, Total		Test and Report	0.1 mg/dL
BUN		Test and Report	19.0 mg/dL
Calcium		Test and Report	13.9 mg/dL
Chloride		Test and Report	100.0 mEq/L
Cholesterol		Test and Report	33.0 mg/dL
Cortisol		Test and Report	<0.20 ug/dL
Creatinine		Test and Report	2.8 mg/dL
Glucose		Test and Report	44.0 mg/dL
IgG	ELISA	<0.300 mg/mL*	<0.079 mg/mL
Insulin		Test and Report	8.86 uIU/mL
Iron, Serum		Test and Report	166.0 µg/dL
Phosphorus		Test and Report	8.2 mg/dL
Potassium		Test and Report	10.6 mEq/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	138.0 mEq/L
Testosterone		Test and Report	< 0.01 ng/mL
T3		Test and Report	54.5 ng/dL
T4		Test and Report	15.6 µg/dL
Triglycerides		Test and Report	52.0 mg/dL
Tetracycline		<4 ng/mL	<1.0 ng/mL
Uric Acid		Test and Report	1.0 mg/dL



GeminiBio.

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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.

VANESSA YOUNG
Name
02MAY2022
Date

QA ASSOCIATE II
Title