



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

Lot Number: A021014

Date of Manufacture: Apr2021

Product Expiry: Apr2026

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
<b>Biological Testing</b>			
Endotoxin	USP<85>, EP 2.6.14	<10.0 EU/mL	1.48 EU/mL
Hemoglobin	Fleming, AF and Woolf, AJ (1965)	<20.0 mg/dL	12.9 mg/dL
<b>Microbiological Testing</b>			
Sterility	USP<71>, EP 2.6.1		
Bacteria		No Growth	No Growth
Fungi		No Growth	No Growth
Mycoplasma	Barile, MF and Kern, J (1971), EP 2.6.7	Not Detected	Not Detected
<b>Viral Testing</b>			
Cytopathic Agents	9CFR 113.53c[113.46, 113.47]	Not Detected	Not Detected
Hemadsorbing Agents		Not Detected	Not Detected
Bovine Viral Diarrhea Ab Titer*			
Type I		≤1:4	
Type II		≤1:4	
<b>Extraneous Viruses (FAb)</b>			
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 Viral Diarrhea(non-cytopathic)		Test and Report	Not Detected
Bovine Syncytial Virus		Not Detected	Not Detected
Bovine Rabies Virus		Not Detected	Not Detected
Reovirus		Not Detected	Not Detected



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<b>Physical Testing</b>			
Electrophoretic Pattern	Cellulose Acetate	Normal	Normal
Osmolality	USP<785>, EP 2.2.35	260 – 350 mOsm/ kg	305 mOsm/kg
pH@RT	USP<791>	6.5 – 8.5	7.4
<b>Biochemistry</b>			
Albumin		Test and Report	1.7 g/dL
Alkaline Phosphatase		Test and Report	336 IU/L
ALT (SGPT)		Test and Report	11.0 IU/L
AST (SGOT)		Test and Report	59.0 IU/L
GGT		<10 U/L	4.0 IU/L
Bilirubin, Total		Test and Report	0.1 mg/dL
BUN		Test and Report	18.0 mg/dL
Calcium		Test and Report	13.9 mg/dL
Chloride		Test and Report	98.0 mEq/L
Cholesterol		Test and Report	33.0 mg/dL
Cortisol		Test and Report	<0.20 µg/dL
Creatinine		Test and Report	2.9 mg/dL
Glucose		Test and Report	46.0 mg/dL
IgG	ELISA	<0.300 mg/mL**	0.0785 mg/mL
Insulin		Test and Report	6.21 uIU/mL
Iron, Serum		Test and Report	162.0 µg/dL
Phosphorus		Test and Report	8.3 mg/dL
Potassium		Test and Report	10.6 mEq/L
Progesterone		Test and Report	<0.06 ng/mL
Protein, Total	Biuret	2.5 – 6.0 g/dL	3.7 g/dL
Sodium		Test and Report	136.0 mEq/L
Testosterone		Test and Report	0.01 ng/mL
T3		Test and Report	52.3 ng/dL
T4		Test and Report	14.7 µg/dL
Triglycerides		Test and Report	51.0 mg/dL
Tetracycline		<4 ng/mL	<1.0 ng/mL
Uric Acid		Test and Report	0.9 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



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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. \* Testing not required if Bovine Viral Diarrhea (cytopathic) and Bovine Viral Diarrhea (non – cytopathic) is not detected. \*\*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.

Chelvi B. H. T.

Name

30 AUG 2021

Date

QC Associate

Title