



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

Lot Number: A020002

Date of Manufacture: Feb2020

Product Expiry: Feb2025

Origin: HN

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	USP<85>, EP 2.6.14	<10.0 EU/mL	<0.2 EU/mL
Hemoglobin	Fleming, AF and Woolf, AJ (1965)	<20.0 mg/dL	15.67 mg/dL
Microbiological Testing			
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
Viral Testing			
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	N/A
Type II		≤1:4	N/A
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 Viral Diarrhea(non-cytopathic)		Test and Report	Not Detected
Bovine Syncytial Virus		Not Detected	Not Detected
Bovine Rabie Virus		Not Detected	Not Detected
Reovirus		Not Detected	Not Detected



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Physical Testing			
Electrophoretic Pattern	Cellulose Acetate	Normal	Normal
Osmolality	USP<785>, EP 2.2.35	260 – 350 mOsm/ kg	309 mOsm/kg
pH@RT	USP<791>	6.5 – 8.5	7.4
Biochemistry			
Albumin		Test and Report	1.75 g/dL
Alkaline Phosphatase		Test and Report	337 IU/L
ALT (SGPT)		Test and Report	10 IU/L
AST (SGOT)		Test and Report	67 IU/L
GGT		<10 U/L	6 IU/L
Bilirubin, Total		Test and Report	0.16 mg/dL
BUN		Test and Report	41 mg/dL
Calcium		Test and Report	13.7 mg/dL
Chloride		Test and Report	102 mEq/L
Cholesterol		Test and Report	35 mg/dL
Cortisol		Test and Report	<0.2 ug/dL
Creatinine		Test and Report	2.7 mg/dL
Estradiol		Test and Report	20.05 pg/ml
Glucose		Test and Report	78 mg/dL
IgG	ELISA	<0.300 mg/mL**	0.157 mg/mL
Insulin		Test and Report	6.02 uIU/mL
Iron, Serum		Test and Report	159 µg/dL
Phosphorus		Test and Report	9.1 mg/dL
Potassium		Test and Report	11.9 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 mEq/L
Testosterone		Test and Report	0.01 ng/mL
T3		Test and Report	97.3 ng/dL
T4		Test and Report	14.2 ug/dL
Triglycerides		Test and Report	65mg/dL
Tetracycline		<4 ng/mL	Not Detected
Uric Acid		Test and Report	1.8 mg/dL



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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. *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.

Megha Khasasi
Name
23 MAR 2021
Date

QC Supervisor
Title