



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

Lot Number: A57H74L

Date of Manufacture: APR 2020

Origin: Nicaragua/Costa Rica

Product Expiry: APR 2025

For Cell culture, Further Manufacturing or Research use Only. Not for Direct Therapeutic Use.

Storage Temperature: ≤ -10°C

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	<0.5 EU/mL
Hemoglobin	Fleming, AF and Woolf, AJ (1965)	<20.0 mg/dL	11.63 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			
	9CFR 113.53c[113.46, 113.47]		
Cytopathic Agents		Not Detected	Not Detected
Hemadsorbing Agents		Not Detected	Not Detected
Bovine Viral Diarrhea Ab Titer			
Type I		Test and Report	1:4
Type II		Test and Report	1:4
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 Rabies Virus		Not Detected	Not Detected
Reovirus		Not Detected	Not Detected



Test	Methodology	Specification	Analysis
Physical Testing			
Electrophoretic Pattern	Cellulose Acetate	Normal	Normal
Osmolality	USP<785>, EP 2.2.35	260 – 350 mOsm/ kg	305.0 mOsm/Kg
pH@RT	USP<791>	6.5 – 8.5	7.53
Biochemistry			
Albumin		Test and Report	2.4 g/dL
Alkaline Phosphatase		Test and Report	327 IU/L
ALT (SGPT)		Test and Report	9 IU/L
AST (SGOT)		Test and Report	51 IU/L
GGT		<10 U/L	4 IU/L
Bilirubin, Total		Test and Report	0.10 mg/dL
BUN		Test and Report	19 mg/dL
Calcium		Test and Report	13.9 mg/dL
Chloride		Test and Report	98 mEq/L
Cholesterol		Test and Report	31 mg/dL
Cortisol		Test and Report	<0.2ug/dL
Creatinine		Test and Report	3.0 mg/dL
Estradiol		Test and Report	7.85 pg/mL
Glucose		Test and Report	47 mg/dL
IgG	ELISA	<0.300 mg/mL*	0.540 mg/mL
Insulin		Test and Report	5.72 uIUg/mL
Iron, Serum		Test and Report	158 µg/dL
Phosphorus		Test and Report	8.2 mg/dL
Potassium		Test and Report	10.1mEq/L
Progesterone		Test and Report	<0.06 ng/mL
Protein, Total	Biuret	2.5 – 6.0 g/dL	3.70g/dL
Sodium		Test and Report	138mEq/L
Testosterone		Test and Report	<0.01 ng/mL
T3		Test and Report	56.90 ng/dL
T4		Test and Report	17.40 ug/dL
Triglycerides		Test and Report	48 mg/dl
Tetracycline		<4 ng/mL	Pass
Uric Acid		Test and Report	0.9mg/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.

Megha Khatalasi
 Name
25 NOV 2020
 Date

QA Associate III
 Title