



CERTIFICATE OF ANALYSIS

Addendum

GemCell™ Fetal Bovine Serum

(Catalog Number 100-500)

Lot Number: A121025

Date of Manufacture: OCT2022

Product Expiry: AUG2026

Origin: United States

Storage Temperature: ≤ -10°C

For Cell Culture, further Manufacturing or Research use only. Not for direct Therapeutic use.

Product Description: GemCell™ 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	< 0.750 EU/mL
Hemoglobin	Fleming, AF and Woolf, AJ (1965)	<20.0 mg/dL	8.69 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
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	USP<785>, EP 2.2.35	260 – 350 mOsm/ kg	282 mOsm/kg
pH	USP<791>, EP 2.2.3	6.5 – 8.5	7.02



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Biochemistry			
Albumin		Test and Report	2.0 g/dL
Alkaline Phosphatase		Test and Report	207 IU/L
ALT (SGPT)		Test and Report	6 IU/L
AST (SGOT)		Test and Report	44 IU/L
GGT		<10 U/L	4 IU/L
Bilirubin, Total		Test and Report	0.3 mg/dL
BUN		Test and Report	14 mg/dL
Calcium		Test and Report	13.5 mg/dL
Chloride		Test and Report	97 mmol/L
Cholesterol		Test and Report	28 mg/dL
Cortisol		Test and Report	<0.20 µg/dL
Creatinine		Test and Report	2.6 mg/dL
Glucose		Test and Report	93 mg/dL
IgG	ELISA	<0.300 mg/mL*	0.0593 mg/mL
Insulin		Test and Report	4.39 µU/mL
Iron, Serum		Test and Report	192 µg/dL
Phosphorus		Test and Report	10.2 mg/dL
Potassium		Test and Report	>10.0 mmol/L
Progesterone		Test and Report	<0.1ng/mL
Protein, Total	Biuret	2.5 – 6.0 g/dL	3.5 g/dL
Sodium		Test and Report	135 mmol/L
Testosterone		Test and Report	<0.01 ng/mL
T3		Test and Report	118 ng/dL
T4		Test and Report	18.5 µg/dL
Triglycerides		Test and Report	71 mg/dL
Uric Acid		Test and Report	2.5 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 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.



GeminiBio

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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.

Karen Zuniga

Name

27APR2023

Date

QA Associate I

Title