



GEMINI
BIO-PRODUCTS

Certificate of Analysis

Created September 1, 2020

Product: **GemCell™ Adult Bovine Serum**
0.2µm sterile-filtered

Catalog #: 100-101
Lot #: C55J74J
Origin: United States (100%)

Manufacture Date: Nov 2018
Expiration Date: Nov 2023

TEST	METHODOLOGY	SPECIFICATION	RESULTS
Biological Testing			
Endotoxin	USP<85>		<1.0 EU/mL
Hemoglobin	Fleming, AF and Woolf, AJ (1965)	Report	6.7 mg/dL
Microbiological Testing			
Sterility	USP<71>		
Bacteria		Not Detected	Not Detected
Fungi		Not Detected	Not Detected
Mycoplasma	Barile, MF and Kern, J (1971)	Not Detected	Not Detected
Viral Testing			
	Modified 9 CFR 113.53c		
Cytopathic Agents		Not Detected	Not Detected
Hemadsorbing Agents		Not Detected	Not Detected
Extraneous Viruses (FAb)			
Bluetongue Virus		Not Detected	Not Detected
Bovine Viral Diarrhea		Tested	Not Detected
Physical Testing			
Osmolality	USP<785>	Report	293 mOsm/kg
pH @ RT	USP<791>	Report	7.7



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Biochemical Testing

Product: **GemCell™ Adult Bovine Serum**
0.2µm sterile-filtered

Catalog #: 100-101
Lot #: C55J74J
Origin: United States (100%)

Manufacture Date: July 2017
Expiration Date: July 2022

TEST	METHODOLOGY	SPECIFICATION	RESULTS
Albumin		Test and Report	3.5 g/dL
ALT (SGPT)		Test and Report	12 U/L
AST (SGOT)		Test and Report	80 U/L
Bilirubin, Total		Test and Report	0.2 mg/dL
Calcium		Test and Report	10.4 mM
Chloride		Test and Report	95 mM
Cholesterol		Test and Report	98 mg/dL
Creatinine		Test and Report	0.8 mg/dL
Glucose		Test and Report	71 mM
Iron, Serum		Test and Report	90 ug/dL
Phosphorus		Test and Report	9.1 mM
Potassium		Test and Report	6 mM
Protein, Total	Biuret	Test and Report	7.2 g/dL
Sodium		Test and Report	143 mM
Triglycerides		Test and Report	18 mg/dL

For Cell Culture, further Manufacturing and Research use only. Not for direct Therapeutic use. Results shown were obtained by carefully performed methods believed to be reliable. However, since some results may vary by methodology, it is suggested that tests for which results are particularly critical be repeated by the end user. Our 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 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.

Roberta Beard 01Sep2020
Created by/ date

[Signature] 01SEP2020
Verified by/ date