



CERTIFICATE OF ANALYSIS
GemChoice™ Fetal Bovine Serum
(Catalog Number 100-123)

Lot Number: A34H102K

Date of Manufacture: Dec2019

Origin: Uruguay (100%)

Product Expiry: Dec2024

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

Storage Temperature: ≤ -10°C

Product description: GemChoice™ Fetal Bovine Serum is sterile-filtered through a 0.1 µm filter prior to freezing.

Test	Methodology	Specification	Analysis
Biological Testing			
Endotoxin		<30 EU/mL	< 0.2 EU/mL
Hemoglobin		<30 mg/dL	14.0 mg/dL
Microbiological Testing			
Sterility			
Bacteria		Sterile	Sterile
Fungi		Sterile	Sterile
Mycoplasma		Negative	Negative
Viral Testing			
Bovine Viral Diarrhea		Tested	Tested
Infectious Bovine Rhinotracheitis (IBR)		Not Detected	Not Detected
Para Influenza 3 Virus (PI3)		Not Detected	Not Detected
Physical Testing			
Osmolality		275 – 345 mOsm/ kg	302 mOsm/Kg
pH		6.8 – 7.8	7.56
Biochemistry			
Albumin		Test and Report	15.6 g/L
Alpha Globulins		Test and Report	15.2 g/L
Alkaline Phosphatase		Test and Report	197 IU/l
ALT (SGPT)		Test and Report	8 IU/l
AST (SGOT)		Test and Report	24 IU/l
GGT		Test and Report	7 IU/l
Beta Globulins		Test and Report	6.4 g/L
Bilirubin, Total		Test and Report	0.18 g/dL
Calcium		Test and Report	13.7 g/dL
Chloride		Test and Report	100 mMol/L
Cholesterol		Test and Report	31 mg/dL
Creatinine		Test and Report	2.9 mg/dL



Test	Methodology	Specification	Analysis
Gamma Globulins		Test and Report	0.7 g/L
Glucose		Test and Report	103 mg/dL
IgG		<0.500 mg/mL*	415.1 mg/l
Iron, Serum		Test and Report	214 µg/dL
LDH		Test and Report	512 IU/l
Phosphorus		Test and Report	9.5 mg/dL
Potassium		Test and Report	11.3 mMol/L
Protein, Total		3.0 – 4.5 g/dL	3.79 g/dL
Sodium		Test and Report	135 mMol/L
Triglycerides		Test and Report	58 mg/dL
Urea		Test and Report	40 mg/dL
Uric Acid		Test and Report	2.8 mg/dL
Cell Line L929 6 th Day		Test and Report	110 %
Cell Line SP2 6 th		Test and Report	89 %
Cell Line HELA 6 th Day		Test and Report	100 %
Cell Line MRC5 6 th Day		Test and Report	101 %

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 0.500 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 Khajasi
 Name
27 Feb 2020
 Date

QA Associate III
 Title