



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

**Lot Number:** A44H102L

**Date of Manufacture:** Apr2020

**Origin:** Uruguay (100%)

**Product Expiry:** Apr2025

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
<b>Biological Testing</b>			
Endotoxin		<30 EU/mL	<0.2 EU/mL
Hemoglobin		<30 mg/100 mL	20.43 mg/100 mL
<b>Microbiological Testing</b>			
Sterility			
Bacteria		Sterile	Sterile
Fungi		Sterile	Sterile
Mycoplasma		Negative	Negative
<b>Viral Testing</b>			
Bovine Viral Diarrhea		Tested	Not Detected
Infectious Bovine Rhinotracheitis (IBR)		Not Detected	Not Detected
Para Influenza 3 Virus (PI3)		Not Detected	Not Detected
<b>Physical Testing</b>			
Osmolality		275 – 345 mOsm/Kg	310 mOsm/Kg
pH		6.8 – 7.8	7.47
<b>Biochemistry</b>			
Albumin		Test and Report	16.4 g/L
Alpha Globulins		Test and Report	15.4 g/L
Alkaline Phosphatase		Test and Report	268 IU/L
ALT (SGPT)		Test and Report	6 IU/L
AST (SGOT)		Test and Report	32 IU/L
GGT		Test and Report	7 IU/L
Beta Globulins		Test and Report	5.7 g/L
Bilirubin, Total		Test and Report	0.13 mg/100 mL
Calcium		Test and Report	13.6 mg/100 mL
Chloride		Test and Report	98 mMol/L
Cholesterol		Test and Report	30 mg/ 100mL
Creatinine		Test and Report	3.0 mg/ 100mL



Test	Methodology	Specification	Analysis
Gamma Globulins		Test and Report	0.5 g/L
Glucose		Test and Report	128 mg/100 mL
IgG		<0.500 mg/mL*	0.442 mg/mL
Iron, Serum		Test and Report	214 µg/100 mL
LDH		Test and Report	564 IU/L
Phosphorus		Test and Report	10.1 mg/100 mL
Potassium		Test and Report	12.1 mMol/L
Protein, Total		30 – 45 g/L	37.9 g/L
Sodium		Test and Report	135 mMol/L
Triglycerides		Test and Report	60 mg/100 mL
Urea		Test and Report	38 mg/100 mL
Uric Acid		Test and Report	3.7 mg/100 mL
Cell Line L929 3 <sup>rd</sup> Day		Test and Report	122%
Cell Line L929 6 <sup>th</sup> Day		Test and Report	121%
Cell Line SP2 3 <sup>rd</sup> Day		Test and Report	125%
Cell Line SP2 6 <sup>th</sup> Day		Test and Report	94%
Cell Line HELA 3 <sup>rd</sup> Day		Test and Report	112%
Cell Line HELA 6 <sup>th</sup> Day		Test and Report	97%
Cell Line MRC5 3 <sup>rd</sup> Day		Test and Report	117%
Cell Line MRC5 6 <sup>th</sup> Day		Test and Report	80%
Plating Efficiency – Cells implanted:		500	500
Plating Efficiency – Number of Colonies		Test and Report	340
Plating Efficiency - %PE absolute		Test and Report	68%
Plating Efficiency - %PE relative		Test and Report	95%
Cloning Efficiency – Cells implanted per well		1	1
Cloning Efficiency – Number of clones		Test and Report	57
Cloning Efficiency - %CE absolute		Test and Report	59%
Cloning Efficiency - %CE relative		Test and Report	89%

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 Khalemi  
Name

QA Associate III  
Title

18 SEP 2020  
Date