



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

**Lot Number:** A43H102K

**Date of Manufacture:** Nov2019

**Origin:** Uruguay (100%)

**Product Expiry:** Nov2024

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	21.3 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	Tested
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	303 mOsm/Kg
pH		6.8 – 7.8	7.69
<b>Biochemistry</b>			
Albumin		Test and Report	15.9 g/L
Alpha Globulins		Test and Report	14.4 g/L
Alkaline Phosphatase		Test and Report	199 IU/L
ALT (SGPT)		Test and Report	7 IU/L
AST (SGOT)		Test and Report	28 IU/L
GGT		Test and Report	5 IU/L
Beta Globulins		Test and Report	7.4 g/L
Bilirubin, Total		Test and Report	0.16 mg/100 mL
Calcium		Test and Report	14.1 mg/100 mL
Chloride		Test and Report	100 mMol/L
Cholesterol		Test and Report	32 mg/ 100mL
Creatinine		Test and Report	2.9 mg/ 100mL





Test	Methodology	Specification	Analysis
Gamma Globulins		Test and Report	0.6 g/L
Glucose		Test and Report	100 mg/100 mL
IgG		<0.500 mg/mL*	0.344 mg/mL
Iron, Serum		Test and Report	215 µg/100 mL
LDH		Test and Report	459 IU/L
Phosphorus		Test and Report	9.9 mg/100 mL
Potassium		Test and Report	12.1 mMol/L
Protein, Total		30 – 45 g/L	38.2 g/L
Sodium		Test and Report	136 mMol/L
Triglycerides		Test and Report	60 mg/100 mL
Urea		Test and Report	40 mg/100 mL
Uric Acid		Test and Report	2.7 mg/100 mL
Cell Line L929 3 <sup>rd</sup> Day		Test and Report	100%
Cell Line L929 6 <sup>th</sup> Day		Test and Report	120%
Cell Line SP2 3 <sup>rd</sup> Day		Test and Report	112%
Cell Line SP2 6 <sup>th</sup> Day		Test and Report	78%
Cell Line HELA 3 <sup>rd</sup> Day		Test and Report	95%
Cell Line HELA 6 <sup>th</sup> Day		Test and Report	93%
Cell Line MRC5 3 <sup>rd</sup> Day		Test and Report	125%
Cell Line MRC5 6 <sup>th</sup> Day		Test and Report	104%
Plating Efficiency – Cells implanted:		500	500
Plating Efficiency – Number of Colonies		Test and Report	238
Plating Efficiency - %PE absolute		Test and Report	48%
Plating Efficiency - %PE relative		Test and Report	94%
Cloning Efficiency – Cells implanted per well		1	1
Cloning Efficiency – Number of clones		Test and Report	48
Cloning Efficiency - %CE absolute		Test and Report	50%
Cloning Efficiency - %CE relative		Test and Report	111%

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.

  
 Name  
 17 SEP 2020  
 Date

  
 Title