CERTIFICATE OF ANALYSIS

GemChoice™ Fetal Bovine Serum

(Catalog Number 100-123)

Lot Number: A48H102L

Origin: Uruguay (100%)

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

Date of Manufacture: Mar2020

Product Expiry: Mar2025

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/100 mL	20.3 mg/100 mL
Microbiological Testing			
Sterility			
Bacteria		Sterile	Sterile
Fungi		Sterile	Sterile
Mycoplasma		Negative	Negative
Viral Testing			
Bovine Viral Diarrhea		Tested	Not Detected
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	7.42
Biochemistry			
Albumin		Test and Report	15.6 g/L
Alpha Globulins		Test and Report	16.5 g/L
Alkaline Phosphatase		Test and Report	416 IU/L
ALT (SGPT)		Test and Report	6 IU/L
AST (SGOT)		Test and Report	22 IU/L
GGT		Test and Report	7 IU/L
Beta Globulins		Test and Report	4.5 g/L
Bilirubin, Total		Test and Report	0.13 mg/100 mL
Calcium		Test and Report	13.4 mg/100 mL
Chloride		Test and Report	98 mMol/L
Cholesterol		Test and Report	30 mg/ 100mL
Creatinine		Test and Report	2.6 mg/ 100mL

Test	Methodology	Specification	Analysis
Gamma Globulins		Test and Report	0.6 g/L
Glucose		Test and Report	114 mg/100 mL
IgG		<0.500 mg/mL*	0.591 mg/mL
Iron, Serum		Test and Report	214 µg/100 mL
LDH		Test and Report	442 IU/L
Phosphorus		Test and Report	10.1 mg/100 mL
Potassium		Test and Report	12.2 mMol/L
Protein, Total		30 – 45 g/L	37.2 g/L
Sodium		Test and Report	133 mMol/L
Triglycerides		Test and Report	63 mg/100 mL
Urea		Test and Report	37 mg/100 mL
Uric Acid		Test and Report	3.2 mg/100 mL
Cell Line L929 3rd Day		Test and Report	116%
Cell Line L929 6th Day		Test and Report	101%
Cell Line SP2 3rd Day		Test and Report	98%
Cell Line SP2 6th Day		Test and Report	99%
Cell Line HELA 3rd Day		Test and Report	125%
Cell Line HELA 6th Day		Test and Report	105%
Cell Line MRC5 3rd Day		Test and Report	125%
Cell Line MRC5 6th Day		Test and Report	99%
Plating Efficiency – Cells implanted:		500	500
Plating Efficiency – Number of Colonies		Test and Report	365
Plating Efficiency - %PE absolute		Test and Report	73%
Plating Efficiency - %PE relative		Test and Report	102%
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.

Name

QC ASSOCIATE
Title

08 OCT 2020
Date