



CERTIFICATE OF ANALYSIS
GemCell™ Fetal Bovine Serum
(Catalog Number 100-500)

Lot Number: A122057

Date of Manufacture: JUN2022

Product Expiry: JUN2027

Origin: United States

Storage Temperature: ≤ -10°C

For Cell Culture, further Manufacturing or Research use only. Not for direct Therapeutic use.

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

| Test | Methodology | Specification | Analysis |
|------------------------------------|-------------------------------|--------------------|--------------|
| Biological Testing | | | |
| Endotoxin | USP<85>, EP 2.6.14 | <10.0 EU/mL | <0.1 EU/mL |
| Hemoglobin | | <20.0 mg/dL | 5.06 mg/dL |
| Microbiological Testing | | | |
| Sterility | USP<71>, EP 2.6.1 | | |
| Bacteria | | No Growth | No Growth |
| Fungi | | No Growth | No Growth |
| Mycoplasma | | Not Detected | Not Detected |
| Viral Testing | | | |
| | 9CFR 113.53c [113.46, 113.47] | | |
| Cytopathic Agents | | Not Detected | Not Detected |
| Hemadsorbing Agents | | Not Detected | Not Detected |
| Extraneous Viruses (FAB) | | | |
| Bluetongue Virus | | Not Detected | Not Detected |
| Bovine Adenovirus | | Not Detected | Not Detected |
| Bovine Parvovirus | | Not Detected | Not Detected |
| Bovine Viral Diarrhea (Cytopathic) | | Not Detected | Not Detected |
| Bovine Respiratory Syncytial Virus | | Not Detected | Not Detected |
| Rabies Virus | | Not Detected | Not Detected |
| Reovirus | | Not Detected | Not Detected |
| Physical Testing | | | |
| Electrophoretic Pattern | | Normal | Normal |
| Osmolality | USP<785>, EP2.2.35 | 260 – 350 mOsm/ kg | 281 mOsm/kg |
| pH | USP<791>, EP 2.2.3 | 6.5 – 8.5 | 7.16 |
| Biochemistry | | | |
| Albumin | | Test and Report | 2.1 g/dL |
| Alkaline Phosphatase | | Test and Report | 247 IU/L |
| ALT (SGPT) | | Test and Report | 5 IU/L |
| AST (SGOT) | | Test and Report | 36 IU/L |
| GGT | | <10 U/L | 5 IU/L |



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|------------------|-------------|-----------------|--------------|
| Bilirubin, Total | | Test and Report | 0.2 mg/dL |
| BUN | | Test and Report | 14 mg/dL |
| Calcium | | Test and Report | 13.1 mg/dL |
| Chloride | | Test and Report | 98 mmol/L |
| Cholesterol | | Test and Report | 26 mg/dL |
| Cortisol | | Test and Report | <0.20 µg/dL |
| Creatinine | | Test and Report | 2.9 mg/dL |
| Glucose | | Test and Report | 119 mg/dL |
| IgG | | <0.300 mg/mL* | 0.0622 mg/dL |
| Insulin | | Test and Report | 4.08 µU/mL |
| Iron, Serum | | Test and Report | 192 µg/dL |
| Phosphorus | | Test and Report | 9.7 mg/dL |
| Potassium | | Test and Report | 11.9 mmol/L |
| Progesterone | | Test and Report | <0.1 ng/mL |
| Protein, Total | | 2.5 – 6.0 g/dL | 3.6 g/dL |
| Sodium | | Test and Report | 137 mmol/L |
| Testosterone | | Test and Report | <0.01 ng/mL |
| T3 | | Test and Report | 185 ng/dL |
| T4 | | Test and Report | 89.0 µg/dL |
| Triglycerides | | Test and Report | 61 mg/dL |
| Tetracycline | | <4 ng/mL | <4.0 ng/mL |
| Uric Acid | | Test and Report | 3.5 mg/dL |

Our fetal 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 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 0.300 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.

VANESSA YOUNG
Name

QA ASSOCIATE II
Title

16NOV2022
Date