



CERTIFICATE OF ANALYSIS
BenchMark™ Fetal Bovine Serum
(Catalog Number 100-106)

Lot Number: A021012

Date of Manufacture: May2021

Product Expiry: May2026

Origin: El Salvador

Storage Temperature: ≤ -10°C

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

Product description: BenchMark™ 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 | 0.647 EU/mL |
| Hemoglobin | Fleming, AF and Woolf, AJ (1965) | <20.0 mg/dL | 11.28 mg/dL |
| Microbiological Testing | | | |
| Sterility | | | |
| | USP<71>, EP 2.6.1 | | |
| Bacteria | | No Growth | No Growth |
| Fungi | | No Growth | No Growth |
| Mycoplasma | Barile, MF and Kern, J (1971), EP 2.6.7 | 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 |
| Bovine Viral Diarrhea Ab Titer* | | | |
| Type I | | ≤1:4 | |
| Type II | | ≤1:4 | |
| 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 Viral Diarrhea(non-cytopathic) | | Test and Report | Not Detected |
| Bovine Syncytial Virus | | Not Detected | Not Detected |
| Bovine Rabies Virus | | Not Detected | Not Detected |
| Reovirus | | Not Detected | Not Detected |



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| Test | Methodology | Specification | Analysis |
|-------------------------|---------------------|--------------------|-------------|
| Physical Testing | | | |
| Electrophoretic Pattern | Cellulose Acetate | Normal | Normal |
| Osmolality | USP<785>, EP 2.2.35 | 260 – 350 mOsm/ kg | 309 mOsm/kg |
| pH@RT | USP<791> | 6.5 – 8.5 | 7.30 |
| Biochemistry | | | |
| Albumin | | Test and Report | 1.8 g/dL |
| Alkaline Phosphatase | | Test and Report | 328 IU/L |
| ALT (SGPT) | | Test and Report | 9 IU/L |
| AST (SGOT) | | Test and Report | 43 IU/L |
| GGT | | <10 U/L | 5 IU/L |
| Bilirubin, Total | | Test and Report | 0.10 mg/dL |
| BUN | | Test and Report | 19 mg/dL |
| Calcium | | Test and Report | 14.4 mg/dL |
| Chloride | | Test and Report | 98 mEq/L |
| Cholesterol | | Test and Report | 36 mg/dL |
| Cortisol | | Test and Report | <0.20 µg/dL |
| Creatinine | | Test and Report | 2.8 mg/dL |
| Glucose | | Test and Report | 76 mg/dL |
| IgG | ELISA | <0.300 mg/mL** | 0.142 mg/mL |
| Insulin | | Test and Report | 6.47 µIU/mL |
| Iron, Serum | | Test and Report | 172 µg/dL |
| Phosphorus | | Test and Report | 9.1 mg/dL |
| Potassium | | Test and Report | 11.1 mEq/L |
| Progesterone | | Test and Report | <0.06 ng/mL |
| Protein, Total | Biuret | 2.5 – 6.0 g/dL | 3.80 g/dL |
| Sodium | | Test and Report | 139 mEq/L |
| Testosterone | | Test and Report | <0.01 ng/mL |
| T3 | | Test and Report | 96.9 ng/dL |
| T4 | | Test and Report | 13.6 µg/dL |
| Triglycerides | | Test and Report | 65 mg/dL |
| Tetracycline | | <4 ng/mL | 1.14 ng/mL |
| Uric Acid | | Test and Report | 1.7 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



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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. * Testing not required if Bovine Viral Diarrhea (cytopathic) and Bovine Viral Diarrhea (non – cytopathic) is not detected. **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.

Amna Z Khan

Name

QC Associate

Title

27 JUL 2021

Date