

Certificate of Analysis

Created August 7, 2017

Product:

Foundation™ B Fetal Bovine Serum Heat Inactivated*

Triple 0.1µm sterile-filtered

Catalog #: 900-208 Lot #: A49G91J

Origin: Mexico (100%)

Manufacture Date: Jun 2018 Expiration Date: Sep 2021

| Test | M ETHODOLOGY | SPECIFICATION | RESULTS | |
|--|----------------------------------|-----------------|--------------|--|
| Biological Testing | | | 0.010,00 | |
| Endotoxin | USP<85> | Test and Report | >100 EU/mL | |
| Hemoglobin | Fleming, AF and Woolf, AJ (1965) | Test and Report | 23.88 mg/dL | |
| Microbiological Testing | | | | |
| Sterility | USP<71> | | | |
| Bacteria | | Not Detected | Not Detected | |
| Fungi | | Not Detected | Not Detected | |
| Mycoplasma | Barile, MF and Kern, J (1971) | Not Detected | Not Detected | |
| Viral Testing | 9 CFR 113.53c [113.46, 113.47] | | | |
| Cytopathic Agents | | Not Detected | Not Detected | |
| Hemadsorbing Agents | | Not Detected | Not Detected | |
| Bovine Viral Diarrhea Ab Titer | | | | |
| Туре І | | Test and Report | 1:8 | |
| Type II | | Test and Report | 1:1 | |
| 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 | Tested | |
| Bovine Syncytial Virus | | Not Detected | Not Detected | |
| Bovine Rabies Virus | | Not Detected | Not Detected | |
| Reovirus | | Not Detected | Not Detected | |
| Physical Testing | | | | |
| Electrophoretic Pattern | Cellulose Acetate | Normal | Normal | |
| Osmolality | USP<785> | 260-350 m0sm/kg | 301 m0sm/kg | |
| pH @ RT | USP<791> | 6.5 - 8.5 | 7.38 | |



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| Albumin Test and Report 2.0 g/dL Alkaline Phosphatase Test and Report 172 U/L ALT (SGPT) Test and Report 3 U/L AST (SGOT) Test and Report 22 U/L GGT < 10 U/L 4 U/L Bilirubin, Total Test and Report 15 mg/dL Calcium Test and Report 15 mg/dL Calcium Test and Report 2.73 mM Chloride Test and Report 2.73 mM Chloride Test and Report 2.6 mg/dL Cortisol Test and Report 2.6 mg/dL Cortisol Test and Report 2.3 mg/dL Estradiol Test and Report 2.3 mg/dL Estradiol Test and Report 2.3 mg/dL Cilcose Test and Report 3.8 mM IgG ELISA <0.300 mg/mL** 0.230 mg/mL Insulin Test and Report 47.5 pM Iron, Serum Test and Report 2.7 mM Progesterone Test and Report 150 ug/dL Phosphorus Test and Report 2.7 mM Progesterone Test and Report 123 mM Test and Report 100 mM Test and Report 123 mM | Test | M ETHODOLOGY | SPECIFICATION | RESULTS | |
|--|----------------------|---------------------|-----------------|---------|-------|
| ALT (SGPT) Test and Report 3 U/L AST (SGOT) Test and Report 22 U/L GGT <10 U/L 4 U/L Bilirubin, Total Test and Report 0.2 mg/dL BUN Test and Report 15 mg/dL Calcium Test and Report 2.73 mM Chloride Test and Report 89 mM Cholesterol Test and Report 26 mg/dL Cortisol Test and Report 7.56 nM Creatinine Test and Report 2.3 mg/dL Estradiol Test and Report 125 pM Glucose Test and Report 125 pM Insulin Test and Report 47.5 pM Iron, Serum Test and Report 150 ug/dL Phosphorus Test and Report 2.7 mM Potassium Test and Report >10.0 mM Protein, Total Biuret 2.5-6.0 g/dL 3.1 g/dL Sodium Test and Report <0.03 nM | Albumin | | Test and Report | 2.0 | g/dL |
| AST (SGOT) Test and Report 22 U/L GGT <10 U/L | Alkaline Phosphatase | | Test and Report | 172 | U/L |
| GGT <10 U/L | ALT (SGPT) | | Test and Report | 3 | U/L |
| Bilirubin, Total Test and Report 0.2 mg/dL BUN Test and Report 15 mg/dL Calcium Test and Report 2.73 mM Chloride Test and Report 89 mM Cholesterol Test and Report 26 mg/dL Cortisol Test and Report 7.56 nM Creatinine Test and Report 2.3 mg/dL Estradiol Test and Report 125 pM Glucose Test and Report 3.8 mM IgG ELISA <0.300 mg/mL** | AST (SGOT) | | Test and Report | 22 | U/L |
| BUN Test and Report 15 mg/dL Calcium Test and Report 2.73 mM Chloride Test and Report 89 mM Cholesterol Test and Report 26 mg/dL Cortisol Test and Report 7.56 nM Creatinine Test and Report 2.3 mg/dL Estradiol Test and Report 125 pM Glucose Test and Report 3.8 mM IgG ELISA <0.300 mg/mL** | GGT | | <10 U/L | 4 | U/L |
| Calcium Test and Report 2.73 mM Chloride Test and Report 89 mM Cholesterol Test and Report 26 mg/dL Cortisol Test and Report 7.56 nM Creatinine Test and Report 2.3 mg/dL Estradiol Test and Report 125 pM Glucose Test and Report 3.8 mM IgG ELISA <0.300 mg/mL** | Bilirubin, Total | | Test and Report | 0.2 | mg/dL |
| Chloride Cholesterol Cholesterol Cortisol Creatinine Estradiol Estradiol Glucose Insulin Iron, Serum Phosphorus Phosphorus Progesterone Progesterone Protein, Total Sodium Test and Report Tes | BUN | | Test and Report | 15 | mg/dL |
| Cholesterol Test and Report 26 mg/dL Cortisol Test and Report 7.56 nM Creatinine Test and Report 2.3 mg/dL Estradiol Test and Report 1.25 pM Glucose Test and Report 3.8 mM IgG ELISA <0.300 mg/mL** | Calcium | | Test and Report | 2.73 | mM |
| Cortisol Test and Report 7.56 nM Creatinine Test and Report 2.3 mg/dL Estradiol Test and Report 125 pM Glucose Test and Report 3.8 mM IgG ELISA <0.300 mg/mL** 0.230 mg/mL Insulin Test and Report 47.5 pM Iron, Serum Test and Report 150 ug/dL Phosphorus Test and Report 150 ug/dL Phosphorus Test and Report 2.7 mM Potassium Test and Report 2.7 mM Progesterone Test and Report >10.0 mM Progesterone Test and Report <0.159 nM Protein, Total Biuret 2.5-6.0 g/dL 3.1 g/dL Sodium Test and Report 123 mM Test and Report <0.03 nM Test and Report <0.03 nM Test and Report 1.62 nM | Chloride | | Test and Report | 89 | mM |
| Creatinine Estradiol Glucose Glucose Iest and Report Test and Report | Cholesterol | | Test and Report | 26 | mg/dL |
| Estradiol Glucose Test and Report 125 pM Test and Report 126 pM Test and Report 127 pM Test and Report 128 pM Test and Report 129 pM Test and Report 120 mg/mL Test and Report 121 mm Test and Report 122 mm Test and Report 123 mm Test and Report 123 mm Test and Report 124 mm Test and Report 125 pM Test and Report 126 mm Test and Report 127 mm Test and Report 128 mm Test and Report 129 mm Test and Report 120 mM | Cortisol | | Test and Report | 7.56 | nM |
| Glucose IgG ELISA CO.300 mg/mL** Insulin Iron, Serum Phosphorus Potassium Progesterone Protein, Total Sodium Test and Report Biuret Sodium Test and Report | Creatinine | | Test and Report | 2.3 | mg/dL |
| IgG ELISA <0.300 mg/mL** 0.230 mg/mL Insulin Test and Report 47.5 pM Iron, Serum Test and Report 150 ug/dL Phosphorus Test and Report 2.7 mM Potassium Test and Report >10.0 mM Progesterone Test and Report <0.159 nM Protein, Total Biuret 2.5-6.0 g/dL 3.1 g/dL Sodium Test and Report 123 mM Test and Report <0.03 nM Test and Report <0.03 nM Test and Report 1.62 nM | Estradiol | | Test and Report | 125 | pM |
| Insulin Iron, Serum Iron, Serum Phosphorus Potassium Progesterone Protein, Total Sodium Test and Report Biuret Sodium Test and Report | Glucose | | Test and Report | 3.8 | mM |
| Iron, Serum Phosphorus Test and Report Test and Report Test and Report Potassium Progesterone Test and Report | IgG | ELISA | <0.300 mg/mL** | 0.230 | mg/mL |
| Phosphorus Potassium Progesterone Protein, Total Sodium Test and Report Biuret Sodium Test and Report Test and Report Sodium Test and Report | Insulin | | Test and Report | 47.5 | pM |
| Potassium Progesterone Protein, Total Sodium Test and Report Sodium Test and Report Sodium Test and Report | Iron, Serum | | Test and Report | 150 | ug/dL |
| Progesterone Test and Report <0.159 nM Protein, Total Biuret 2.5-6.0 g/dL 3.1 g/dL Sodium Test and Report 123 mM Testosterone Test and Report <0.03 nM T3 Test and Report 1.62 nM | Phosphorus | | Test and Report | 2.7 | mM |
| Protein, Total Biuret 2.5-6.0 g/dL 3.1 g/dL Sodium Test and Report 123 mM Testosterone Test and Report <0.03 nM T3 Test and Report 1.62 nM | Potassium | | Test and Report | >10.0 | mM |
| Sodium Test and Report 123 mM Testosterone Test and Report <0.03 nM T3 Test and Report 1.62 nM | Progesterone | | Test and Report | <0.159 | nM |
| Testosterone Test and Report <0.03 nM T3 Test and Report 1.62 nM | Protein, Total | Biuret | 2.5-6.0 g/dL | 3.1 | g/dL |
| Ta Test and Report 1.62 nM | Sodium | | Test and Report | 123 | mM |
| | Testosterone | | Test and Report | <0.03 | nM |
| T4 ID . | T3 | | Test and Report | 1.62 | nM |
| 14 lest and Report 152 nM | T4 | | Test and Report | 152 | nM |
| Triglycerides Test and Report 64 mg/dL | Triglycerides | | Test and Report | 64 | mg/dL |
| Tetracycline <4 ng/mL Pass | Tetracycline | | <4 ng/mL | Pass | |
| Uric Acid Test and Report 2.1 mg/dL | Uric Acid | | Test and Report | 2.1 | mg/dL |

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

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.

CREATED BY/ DATE

VERIFIED BY/ DATE

^{*}Results shown were obtained by carefully performed methods believed to be reliable prior to heat inactivaion. However, since some results may vary by methodology, it is suggested that tests for which results are particularly critical be repeated by the end user.