

## Certificate of Analysis

|                    |   |  |               |
|--------------------|---|--|---------------|
| <b>Description</b> | <b>Fetal Bovine Serum,<br/>USDA Approved Origin</b> | <b>Catalog #:</b>                      | 35-010-CV     |
|                    |   | <b>Lot #:</b>                          | 35010163      |
|                    |   | <b>Date of Manufacture:</b>            | June 20, 2018 |
|                    |   | <b>Date of Expiration:</b>             | 2023/06       |
| <b>Storage</b>     | -25 to -15°C  | <b>Country of Raw Material Origin:</b> | Mexico        |
|                    |   | <b>Country of Final Processing:</b>    | USA           |

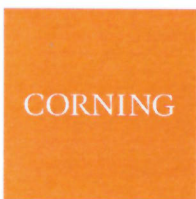
**Notes:**

This product was tested in accordance with currently approved Mediatech, Inc. specifications and procedures. Testing procedures are maintained in compliance with the current versions of the USP and/or EP, where applicable.

For research and further manufacturing use only. Not for use as an excipient. Not for therapeutic or diagnostic use. Not for human or animal consumption. Utilization of this product apart from the labeled intended use may be a violation of local and/or Federal Law.

This product was manufactured from fetal bovine blood collected from government approved harvest facilities located in Mexico. All fetal bovine serum is derived from fetuses collected from healthy bovine cows and heifers that have passed ante- and post mortem inspection and were found free of contagious diseases. This material was imported into the United States under a USDA/APHIS issued import permit.

| TEST PARAMETERS                   | SPECIFICATION                          | RESULT                 |
|-----------------------------------|--|------------------------|
| Appearance<br>(Visual Inspection) | Amber or caramel colored frozen liquid | Pass                   |
| Triple 0.1 Micron-Filtered        | As Reported                            | Triple 0.1 µm Filtered |
| Sterility<br>(USP <71>)           | Not Detected                           | Not Detected           |
| (EP 2.6.1)                        | Not Detected                           | Not Detected           |
| Sterility Assurance Level (SAL)   | 10 <sup>-3</sup>                       | 10 <sup>-3</sup>       |
| Endotoxin<br>(USP <85>)           | ≤ 20EU/mL                              | < 0.1 EU/mL            |



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|   |                                    |                              |
|---|------------------------------------|------------------------------|
| Mycoplasma<br>(Barile, MF and Kern, J (1971))<br>(Hoechst Fluorochrome Stain) | Not Detected<br>Not Detected       | Not Detected<br>Not Detected |
| pH<br>(USP <791>)   | 6.8 – 8.4                          | 7.3                          |
| Osmolality<br>(USP <785>)   | 280 – 350 mOsm/kg H <sub>2</sub> O | 307 mOsm/kg H <sub>2</sub> O |
| Performance Testing   | Passed > 75% to control            | Pass                         |
| Virus Screening<br>(9 CFR Part 113.53 c [113.46,<br>113.47])                  |                                    |                              |
| Bluetongue Virus  | Not Detected                       | Not Detected                 |
| Bovine Adenovirus   | Not Detected                       | Not Detected                 |
| Bovine Parvovirus   | Not Detected                       | Not Detected                 |
| Bovine Respiratory Syncytial<br>Virus   | Not Detected                       | Not Detected                 |
| Bovine Viral Diarrhea Virus   | As Reported                        | Not Detected                 |
| Rabies Virus  | Not Detected                       | Not Detected                 |
| Reovirus  | Not Detected                       | Not Detected                 |
| Cytopathogenic Agents (e.g.<br>IBR)   | Not Detected                       | Not Detected                 |
| Hemadsorbing Agents (e.g.<br>PI3)   | Not Detected                       | Not Detected                 |
| Proteins/Other  |                                    |                              |
| Gamma-Glutamyl Transferase<br>(GGT)   | As Reported                        | 5 IU/L                       |
| Alkaline Phosphatase  | As Reported                        | 263 IU/L                     |
| Blood Urea Nitrogen (BUN)   | As Reported                        | 16 mg/dL                     |
| Cholesterol   | As Reported                        | 30 mg/dL                     |
| Creatinine  | As Reported                        | 2.6 mg/dL                    |
| Glucose   | As Reported                        | 99 mg/dL                     |

|   |  |             |
|---|--|-------------|
| Glutamic Oxaloacetic Transaminase (SGOT) (AST)              | As Reported  | 32 IU/L     |
| Glutamic Pyruvic Transaminase (SGPT)(ALT)                   | As Reported  | 6 IU/L      |
| Hemoglobin (USP <90> compliant Fleming and Woolf method)    | ≤ 30 mg/dL   | 9 mg/dL     |
| High Density Lipoprotein Cholesterol (HDL)                  | As Reported  | 11 mg/dL    |
| Immunoglobulin (IgG) (ELISA)                                | As Reported  | 163.0 µg/mL |
| Low Density Lipo-Protein Cholesterol (LDL)                  | As Reported  | 6 mg/dL     |
| Total Bilirubin   | As Reported  | 0.3 mg/dL   |
| Total Protein (Biuret Method)                               | 3.0 -5.0 g/dL  | 3.5 g/dL    |
| Triglycerides   | As Reported  | 64 mg/dL    |
| Uric Acid   | As Reported  | 2.7 mg/dL   |
| Electrophoretic Profile (Cellulose Acetate Electrophoresis) | Typical OR Normal OR Representative of Fetal Bovine Serum              | Normal      |
| Albumin   | As Reported  | 2.0 g/dL    |
| Alpha – 1, 2  | Report as Alpha 1,2 OR Report both Alpha 1 and Alpha 2 when applicable | 1.2 g/dL    |
| Beta  | As Reported  | 0.2 g/dL    |
| Gamma   | As Reported  | 0.1 g/dL    |
| Trace Metals  |  |             |
| Calcium   | As Reported  | 13.1 mg/dL  |
| Chloride  | As Reported  | 96 mEq/L    |
| Iron  | As Reported  | 172 µg/dL   |
| Magnesium   | As Reported  | 3.1 mg/dL   |
| Phosphorus  | As Reported  | 9.3 mg/dL   |
| Potassium   | As Reported  | > 10 mEq/L  |
| Sodium  | As Reported  | 135 mEq/L   |

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| Hormones     |             |              |
|--------------|-------------|--------------|
| Cortisol     | As Reported | 0.637 µg/dL  |
| Estradiol    | As Reported | 31.4 pg/mL   |
| Insulin      | As Reported | 4.99 µU/mL   |
| Progesterone | As Reported | < 0.1 ng/mL  |
| Testosterone | As Reported | < 0.01 ng/mL |
| T3           | As Reported | 164 ng/dL    |
| T4           | As Reported | 17.0 µg/dL   |

For additional information on this Mediatech product, please contact our Technical Services department at (800) 235-5476 or via email at MTTechServ@corning.com.

Following signatures indicate the above material has met all quality specifications and has been reviewed by a Quality representative.

Written By/Date: ML 16 AUG 2018

Reviewed By/Date: George 16 AUG 2018



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