## **CORNING**

## **Certificate of Analysis**

Regular, **Product:** Fetal Bovine Serum **Description:** 

USDA Approved Origin

35-010-CF, 35-010-CV **Catalog Number:** Lot Number: 14020001

**Date of Expiration: Date of Manufacture:** 17 JUL 2020 JUL 2025

**Country of Raw Material** 

Origin:

Mexico

**Country of Final** Processing:

Storage:

**United States** 

-40°C to -10°C

10<sup>-3</sup> (Triple 0.1 μm **Sterility Assurance** 

Level: Filtered)

Test (Endotoxin         Westhod         Specification         Results         Units           Endotoxin         USP <85> & EP 2.6.14         ≤ 20         < 0.1         EU/mL           Hemoglobin         USP <90>         ≤ 30         12.01         mg/dL           Mycoplasma         Hockelst Fluorochrome Stain USP <785 & EP 2.2.35         Not Detected         Not Detected         N/A           Osmolality         USP <785 & EP 2.2.35         6.5 – 8.5         7.35         N/A           Sterility (Bacteria & Fungi)         USP <719 & EP 2.2.3         6.5 – 8.5         7.35         N/A           Sterility (Bacteria & Fungi)         USP <719 & EP 2.5.3         3.0 – 4.5         3.5         g/dL           Sterility (Bacteria & Fungi)         USP <719 & EP 2.5.3         3.0 – 4.5         3.5         g/dL           Cell Growth Performance Testing         MTT Assay         Passed         Passed         N/A           Gamma-Glutamyl Transferase (GGT)         Chemistry Analyzer         ≥10         5         IU/L           Cell Growth Performance Testing         MTT Assay         Passed         Passed         N/A           Usb < 10 Step	Tool	Mathad	Cuccification	Desults	l luita
Hemoglobin			-		
Mycoplasma         Barile and Kern & Hoechst Fluorochrome Stain Osmolality         Not Detected         N/A           Osmolality         USP <7875 × 8EP 2.2.35			==	*	
Osmolality   USP <785					_
DH   USP < 791 > & EP 2.2.3   6.5 - 8.5   7.35   N/A	Mycopiasma	Hoechst Fluorochrome Stain	Not Detected	Not Detected	N/A
Sterility (Bacteria & Fungi)	Osmolality	USP <785> & EP 2.2.35	260 – 350	285	mOsm/kg H <sub>2</sub> O
Total Protein USP <1057> & EP 2.5.33 3.0 - 4.5 5.5 IU/L Gamma-Glutamyl Transferase (GGT) Chemistry Analyzer ≤10 5 IU/L Cell Growth Performance Testing MTT Assay Passed Passed N/A Identification (Species ID) EP 2.7.1 Bovine Bovine N/A  Virus Testing 9 CFR Part 113.53c  Bluetongue Virus Not Detected Not Detected N/A Bovine Adenovirus 1 & 5 Not Detected Not Detected N/A Bovine Parvovirus Not Detected Not Detected N/A Bovine Respiratory Syncytial Virus Not Detected Not Detected N/A Bovine Viral Diarrhea Virus As Reported Not Detected N/A Rabies Virus Not Detected Not Detected N/A Reovirus Not Detected Not Detected N/A Reported N/A Report	рН	USP <791> & EP 2.2.3	6.5 - 8.5	7.35	N/A
Gamma-Glutamyl Transferase (GGT) Chemistry Analyzer ≤10 5 IU/L Cell Growth Performance Testing MTT Assay Passed Passed N/A Identification (Species ID) EP 2.7.1 Bovine Bovine N/A Virus Testing 9 CFR Part 113.53c Bluetongue Virus Not Detected Not Detected N/A Bovine Adenovirus 1 & 5 Not Detected Not Detected N/A Bovine Parvovirus Not Detected Not Detected N/A Bovine Respiratory Syncytial Virus Not Detected Not Detected N/A Bovine Viral Diarrhea Virus Not Detected Not Detected N/A Rabies Virus Not Detected Not Detected N/A Reovirus Alkaline Phosphatase Sorganic Compounds Alkaline Phosphatase As Reported Not Detected N/A Blood Urea Nitrogen (BUN) As Reported 17 mg/dL Cholesterol Not Detected N/A Glucose As Reported 2.7 mg/dL Glucose As Reported 2.7 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 2.6 IU/L High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported 10 mg/dL Immunoglobulin G (IgG) ELISA As Reported 7 mg/dL Low Density Lipoprotein Cholesterol (LDL) Total Billirubin As Reported 0.2 mg/dL Triglyceride As Reported 7 mg/dL As Reported 0.2 mg/dL As Reported 7 mg/dL As Reported 0.2 mg/dL As Reported 0.2 mg/dL As Reported 0.2 mg/dL	Sterility (Bacteria & Fungi)	USP <71> & EP 2.6.1	No Growth	No Growth	N/A
Cell Growth Performance Testing Identification (Species ID)     MTT Assay EP 2.7.1     Passed Bovine     Passed Bovine     N/A       Virus Testing     9 CFR Part 113.53c     Bovine     Not Detected     Not Detected     N/A       Bluetongue Virus     Not Detected     Not Detected     N/A       Bovine Adenovirus 1 & 5     Not Detected     Not Detected     N/A       Bovine Parvovirus     Not Detected     Not Detected     N/A       Bovine Viral Diarrhea Virus     Not Detected     Not Detected     N/A       Rabies Virus     Not Detected     Not Detected     N/A       Rabies Virus     Not Detected     Not Detected     N/A       Reporting Agents (IBR)     Not Detected     Not Detected     N/A       Cytopathogenic Agents (IBR)     Not Detected     Not Detected     N/A       Alkaline Phosphatase     As Reported     272     IU/L       Blood Urea Nitrogen (BUN)     As Reported     30     mg/dL       Creatinine     As Reported     20     IU/L       Glutamic Oxaloacetic Transaminase (ALT)     As Reported	Total Protein	USP <1057> & EP 2.5.33	3.0 - 4.5	3.5	g/dL
Identification (Species ID)	Gamma-Glutamyl Transferase (GGT)	Chemistry Analyzer	≤10	5	IU/L
Virus Testing 9 CFR Part 113.53c  Bluetongue Virus Bovine Adenovirus 1 & 5 Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus Bovine Viral Diarrhea Virus Rabies Virus Rovirus Rovi Detected Ro	Cell Growth Performance Testing	MTT Assay	Passed	Passed	N/A
Bluetongue Virus Bovine Adenovirus 1 & 5 Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Parvovirus Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Parvovirus Bovine Viral Diarrhea Virus Bovine Viral Diarrhea Virus Bovine Viral Diarrhea Virus Bovine Viral Diarrhea Virus Bovine Virus	Identification (Species ID)	EP 2.7.1	Bovine	Bovine	N/A
Bovine Adenovirus 1 & 5 Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Not Detected Bovine Viral Diarrhea Virus Rabies Virus Respiratory Syncytial Virus Respiratory Syncytial Virus Rovina Diarrhea Virus Rovirus Not Detected Not De	Virus Testing	9 CFR Part 113.53c			
Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus Rabies Virus Rabies Virus Reovirus Reovirus Not Detected Not Detected N/A Recovirus Not Detected Not Detected N/A Reovirus Not Detected Not Detected N/A Reovirus Not Detected Not Detected N/A Reovirus Cytopathogenic Agents (IBR) Not Detected Not Detected N/A Hemadsorbing Agents (PI3) Rot Detected Not Detected N/A Hemadsorbing Agents (PI3) Rot Detected N/A Reovirus Rot Detected N/A Reovirus Rot Detected N/A Reovirus Rot Detected N/A Rot Detected N/	Bluetongue Virus		Not Detected	Not Detected	N/A
Bovine Respiratory Syncytial Virus	Bovine Adenovirus 1 & 5		Not Detected	Not Detected	N/A
Bovine Viral Diarrhea Virus  Rabies Virus  Not Detected  Not Detected  Not Detected  N/A  Reovirus  Not Detected  Not Detected  N/A  Reovirus  Not Detected  Not Detected  N/A  Reovirus  Not Detected  Not Detected  N/A  Not Detected  N/A  Reported  Reported  N/A  Biochemical Testing - Proteins & Organic Compounds  Alkaline Phosphatase  Alkaline Phosphatase  As Reported  Blood Urea Nitrogen (BUN)  As Reported  Repor	Bovine Parvovirus		Not Detected	Not Detected	N/A
Rabies Virus Reovirus Not Detected Not Detected Not Detected N/A Reovirus Not Detected Not Detected N/A  Reported Not Detected N/A  Reported N/A  Reported N/A  Reported Re	Bovine Respiratory Syncytial Virus		Not Detected	Not Detected	N/A
Reovirus Cytopathogenic Agents (IBR) Hemadsorbing Agents (P13)  Biochemical Testing - Proteins & Organic Compounds  Alkaline Phosphatase Blood Urea Nitrogen (BUN) Cholesterol Creatinine Glucose Glutamic Oxaloacetic Transaminase (AST) Glutamic Pyruvic Transaminase (ALT) High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA ENTER CHARLES (Not Detected Not Detected N/A Not Not Detected Not Detec	Bovine Viral Diarrhea Virus		As Reported	Not Detected	N/A
Cytopathogenic Agents (IBR) Hemadsorbing Agents (PI3)  Biochemical Testing - Proteins & Organic Compounds  Alkaline Phosphatase Blood Urea Nitrogen (BUN) Cholesterol Creatinine Glucose Glutamic Oxaloacetic Transaminase (AST) High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA Low Density Lipoprotein Cholesterol (LDL) Total Bilirubin Triglyceride  EVA  Not Detected N/A Not Detected Not	Rabies Virus		Not Detected	Not Detected	N/A
Hemadsorbing Agents (PI3)  Biochemical Testing - Proteins & Organic Compounds  Alkaline Phosphatase Alkaline Phosphatase Blood Urea Nitrogen (BUN) As Reported Creatinine As Reported	Reovirus		Not Detected	Not Detected	N/A
Biochemical Testing - Proteins & Organic Compounds  Alkaline Phosphatase As Reported Blood Urea Nitrogen (BUN) As Reported Cholesterol As Reported As Reported 30 mg/dL Creatinine As Reported Creatinine As Reported Clucose As Reported Clutamic Oxaloacetic Transaminase (AST) As Reported Clutamic Pyruvic Transaminase (ALT) As Reported Clutamic Pyruvic Transaminase (ALT) As Reported Clutamic Dyruvic Transaminase (ALT) As Reported Clutamic Oyaloacetic Cholesterol (HDL) As Reported Clutamic Pyruvic Transaminase (ALT) As Reported Clutamic Pyruvic Transaminase	Cytopathogenic Agents (IBR)		Not Detected	Not Detected	N/A
Alkaline Phosphatase Blood Urea Nitrogen (BUN) As Reported 17 mg/dL Cholesterol As Reported 30 mg/dL Creatinine As Reported 2.7 mg/dL Glucose As Reported 70 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 3 lU/L Glutamic Pyruvic Transaminase (ALT) As Reported 3 lU/L High Density Lipoprotein Cholesterol (HDL) As Reported 10 mg/dL Immunoglobulin G (IgG) ELISA As Reported 186.9 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 7 mg/dL Total Bilirubin As Reported 0.2 mg/dL Triglyceride	Hemadsorbing Agents (PI3)		Not Detected	Not Detected	N/A
Blood Urea Nitrogen (BUN)  Cholesterol  Cholesterol  As Reported  As Reported  As Reported  30 mg/dL  Creatinine  As Reported  As Reported  Creatinine  As Reported  As Reported  As Reported  To mg/dL  As Reported  As Reported  As Reported  To mg/dL  As Reported  As Reported  As Reported  As Reported  As Reported  As Reported  To mg/dL  As Reported  As Reported  As Reported  As Reported  To mg/dL  As Reported  As Reported  As Reported  To mg/dL  As Reported  As Reported  To mg/dL  As Reported  As Reported  To mg/dL  As Reported  Total Bilirubin  As Reported	Biochemical Testing - Proteins & Organic Compount	nds			
Cholesterol As Reported 30 mg/dL Creatinine As Reported 2.7 mg/dL Glucose As Reported 70 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 26 IU/L Glutamic Pyruvic Transaminase (ALT) As Reported 3 IU/L High Density Lipoprotein Cholesterol (HDL) As Reported 10 mg/dL Immunoglobulin G (IgG) ELISA As Reported 186.9 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 7 mg/dL Total Bilirubin As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Alkaline Phosphatase		As Reported	272	IU/L
Cholesterol As Reported 30 mg/dL Creatinine As Reported 2.7 mg/dL Glucose As Reported 70 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 26 IU/L Glutamic Pyruvic Transaminase (ALT) As Reported 3 IU/L High Density Lipoprotein Cholesterol (HDL) As Reported 10 mg/dL Immunoglobulin G (IgG) ELISA As Reported 186.9 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 7 mg/dL Total Bilirubin As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Blood Urea Nitrogen (BUN)		As Reported	17	mg/dL
Glucose As Reported 70 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 26 IU/L Glutamic Pyruvic Transaminase (ALT) As Reported 3 IU/L High Density Lipoprotein Cholesterol (HDL) As Reported 10 mg/dL Immunoglobulin G (IgG) ELISA As Reported 186.9 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 7 mg/dL Total Bilirubin As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Cholesterol		As Reported	30	mg/dL
Glutamic Oxaloacetic Transaminase (AST) Glutamic Pyruvic Transaminase (ALT) High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) Low Density Lipoprotein Cholesterol (LDL) Total Bilirubin As Reported As Reported As Reported 7 mg/dL As Reported 7 mg/dL As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Creatinine		As Reported	2.7	mg/dL
Glutamic Pyruvic Transaminase (ALT)  High Density Lipoprotein Cholesterol (HDL)  Immunoglobulin G (IgG)  Low Density Lipoprotein Cholesterol (LDL)  Total Bilirubin  Triglyceride  As Reported  As Reported  As Reported  7  mg/dL  As Reported  7  mg/dL  As Reported  0.2  mg/dL  As Reported  As Reported  64  mg/dL	Glucose		As Reported	70	mg/dL
High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported 10 mg/dL 186.9 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 7 mg/dL Total Bilirubin As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Glutamic Oxaloacetic Transaminase (AST)		As Reported	26	IU/L
Immunoglobulin G (IgG) ELISA As Reported 186.9 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 7 mg/dL Total Bilirubin As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Glutamic Pyruvic Transaminase (ALT)		As Reported	3	IU/L
Low Density Lipoprotein Cholesterol (LDL)  Total Bilirubin  As Reported  As Reported  7 mg/dL	High Density Lipoprotein Cholesterol (HDL)		As Reported	10	mg/dL
Total Bilirubin As Reported 0.2 mg/dL Triglyceride As Reported 64 mg/dL	Immunoglobulin G (IgG)	ELISA	As Reported	186.9	μg/mL
Triglyceride As Reported 64 mg/dL	Low Density Lipoprotein Cholesterol (LDL)		As Reported	7	mg/dL
Triglyceride As Reported 64 mg/dL	Total Bilirubin		As Reported	0.2	mg/dL
Uric Acid As Reported 2.1 mg/dL	Triglyceride		As Reported	64	mg/dL
·	Uric Acid		As Reported	2.1	mg/dL

Biochemical Testing - Electrophoretic Profile	Cellulose Acetate Electrophoresis	Normal	Normal	N/A
Albumin		As Reported	2.1	g/dL
Alpha		As Reported	1.2	g/dL
Beta		As Reported	0.2	g/dL
Gamma		As Reported	0	g/dL
Biochemical Testing - Trace Metals				
Calcium		As Reported	12.9	mg/dL
Chloride		As Reported	97	mmol/L
Iron		As Reported	168	μg/dL
Magnesium		As Reported	3.1	mg/dL
Phosphorus		As Reported	9.0	mg/dL
Potassium		As Reported	>10.0	mmol/L
Sodium		As Reported	136	mmol/L
Biochemical Testing - Hormones				
Cortisol		As Reported	0.230	μg/dL
Insulin		As Reported	7.56	μIU/mL
Progesterone		As Reported	<0.1	ng/mL
Testosterone		As Reported	<0.01	ng/mL
Т3		As Reported	74.2	ng/dL
T4		As Reported	14.0	μg/dL

## Notes:

For additional information on this Mediatech product, please contact our Technical Services department at (800) 492-1110 or via email at scientificsupport@corning.com.

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

Cell lines used in MTT Assay: 3T3, L929, MDCK and Vero. Cell lines used in 9CFR Part 113.53c virus testing: MDBK and Vero.

For research or further manufacturing uses only. Not for use as an excipient. Not for therapeutic or diagnostic uses. 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.

Product meets European Union requirements for the production of technical blood products.

## Origin and BSE/TSE Statements:

The aforementioned lot was manufactured from fetal bovine blood collected from government approved harvest facilities located in Mexico, a country recognized by the United States Department of Agriculture - Animal and Plant Health Inspection Service (USDA-APHIS) and the World Organization for Animal Health (OIE) as having a negligible risk of Bovine Spongiform Encephalopathy (BSE), a bovine-specific Transmissible Spongiform Encephalopathy (TSE). 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.

Lot Number: 14020001

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

Written By/Date:

01 SEP 2020

Reviewed By/Date

Michael / Murce 2 01 SEP 2020



Lot Number: 14020001