CORNING

Certificate of Analysis

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

United States Origin

Catalog Number: 35-015-CF, 35-015-CV Lot Number: 22821001

Date of Expiration: Date of Manufacture: 16 AUG 2021 AUG 2026

Country of Raw Material

Origin:

United States

Country of Final Processing:

United States

10⁻³ (Triple 0.1 μm **Sterility Assurance**

Storage: -40°C to -10°C Level: Filtered)

Hemoglobin	Test Endotoxin	Method USP <85> & EP 2.6.14	Specification ≤ 5.0	Results <1	Units EU/mL
Not Detected Not	Hemoglobin			8.69	
DFH	Mycoplasma		Not Detected	Not Detected	N/A
Sterility (Bacteria & Fungi)	Osmolality	USP <785> & EP 2.2.35	260 - 350		mOsm/kg H ₂ O
Total Protein USP <1057> & EP 2.5.33	•	USP <791> & EP 2.2.3	6.5 - 8.5	7.02	N/A
Gamma-Glutamyl Transferase (GGT) Chemistry Analyzer ≤ 10 4 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 Bluetongue Virus Bovine Adenovirus 1 & 5 Bovine Parvovirus 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 Respiratory Syncytial Virus Not Detected Not Detected N/A Rabies Virus Revoirus Not Detected Not Detected N/A Rabies Virus Revoirus Not Detected Not Detected N/A Revoirus Cytopathogenic Agents (IBR) Hemadsorbing Agents (PI3) BVDV Serum Neutralization BVDV Antibody Type 1 BVDV Antibody Type 1 BVDV Antibody Type 2 Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase Blood Urea Nitrogen (BUN) Cholesterol Creatinine Glucose Glucose Glutamic Oxaloacetic Transaminase (AST) Glutamic Oxaloacetic Transaminase (AST) High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported As Reported FLISA As Reported As Reported FLISA FLISA F	Sterility (Bacteria & Fungi)	USP <71> & EP 2.6.1	No Growth	No Growth	N/A
Cell Growth Performance Testing MTT Assay Passed Bovine Bovine N/A	Total Protein	USP <1057> & EP 2.5.33	3.0 - 4.5	3.5	g/dL
Identification (Species ID) Virus Testing Bluetongue Virus Bluetongue Virus Bovine Adenovirus 1 & 5 Bovine Adenovirus 1 & 5 Bovine Parvovirus Bovine Parvovirus Bovine Parvovirus Bovine Parvovirus Bovine Parvovirus Bovine Parvovirus Bovine Viral Diarrhea Virus Bovine Viral Diarrhea Virus Rabies Virus Rabies Virus Rovirus Rovi Detected Not Detected Not Detected Ni/A Not Detected Ni/A Not Detected Ni/A Not Detected Ni/A Rovirus Rovir	Gamma-Glutamyl Transferase (GGT)	Chemistry Analyzer	≤ 10	4	IU/L
Bluetongue Virus Bluetongue Virus Bovine Adenovirus 1 & 5 Bovine Adenovirus 1 & 5 Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus Rabies Virus Rabies Virus Rovinus	Cell Growth Performance Testing	MTT Assay	Passed	Passed	N/A
Bluetongue Virus Bovine Adenovirus 1 & 5 Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus As Reported Not Detected Not D	Identification (Species ID)	EP 2.7.1	Bovine	Bovine	N/A
Bovine Ādenovirus 1 & 5 Bovine Parvovirus Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus Rabies Virus Rabies Virus Resovirus Resovir	Virus Testing	9 CFR Part 113.53c			
Bovine Parvovirus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus As Reported Not Detected Not Detecte	Bluetongue Virus		Not Detected	Not Detected	N/A
Bovine Respiratory Syncytial Virus Bovine Viral Diarrhea Virus Rabies Virus Rabies Virus Reverirus Reverir	Bovine Adenovirus 1 & 5		Not Detected	Not Detected	N/A
Bovine Viral Diarrhea Virus Rabies Virus Rabies Virus Recovirus Rot Detected Rot Detected Not D	Bovine Parvovirus		Not Detected	Not Detected	N/A
Rabies Virus Reovirus Not Detected Not Detec	Bovine Respiratory Syncytial Virus		Not Detected	Not Detected	N/A
Reovirus Cytopathogenic Agents (IBR) Hemadsorbing Agents (PI3) BVDV Serum Neutralization BVDV Antibody Type 1 BVDV Antibody Type 2 Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase Alkaline Phosphatase Blood Urea Nitrogen (BUN) Creatinine Glucose Glucose Glutamic Oxaloacetic Transaminase (AST) High Density Lipoprotein Cholesterol (LDL) Immunoglobulin G (IgG) ELISA As Reported Not Detected Not Despite De	Bovine Viral Diarrhea Virus		As Reported	Not Detected	N/A
Cytopathogenic Agents (IBR) Hemadsorbing Agents (PI3) BVDV Serum Neutralization BVDV Antibody Type 1 BVDV Antibody Type 2 Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase Blood Urea Nitrogen (BUN) Creatinine Glucose Glucose Glutamic Oxaloacetic Transaminase (AST) Glutamic Pyruvic Transaminase (AST) High Density Lipoprotein Cholesterol (HDL) Low Density Lipoprotein Cholesterol (LDL) Total Bilirubin Triglyceride Alpha Antibody Test Not Detected	Rabies Virus		Not Detected	Not Detected	N/A
Hemadsorbing Agents (PI3) BVDV Serum Neutralization Alpha Antibody Test BVDV Antibody Type 1 BVDV Antibody Type 2 As Reported As Reported No Neutralization N/A Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase Alkaline Phosphatase As Reported Blood Urea Nitrogen (BUN) Cholesterol Creatinine Glucose Glutamic Oxaloacetic Transaminase (AST) Glutamic Pyruvic Transaminase (ALT) High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported As Repo	Reovirus		Not Detected	Not Detected	N/A
BVDV Serum Neutralization Alpha Antibody Test BVDV Antibody Type 1 As Reported No Neutralization N/A Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase As Reported 14 mg/dL Blood Urea Nitrogen (BUN) As Reported 14 mg/dL Cholesterol As Reported 28 mg/dL Creatinine As Reported 28 mg/dL Glucose As Reported 2.6 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 44 IU/L Glutamic Pyruvic Transaminase (ALT) As Reported 6 IU/L High Density Lipoprotein Cholesterol (HDL) As Reported 8 mg/dL Low Density Lipoprotein Cholesterol (LDL) As Reported 6 mg/dL Total Bilirubin As Reported 0.3 mg/dL Triglyceride As Reported 71 mg/dL	Cytopathogenic Agents (IBR)		Not Detected	Not Detected	N/A
BVDV Antibody Type 1 BVDV Antibody Type 2 Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase Alkaline Phosphatase Blood Urea Nitrogen (BUN) As Reported	Hemadsorbing Agents (PI3)		Not Detected	Not Detected	N/A
BVDV Antibody Type 2 Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase As Reported Blood Urea Nitrogen (BUN) As Reported Billiumunoglobulin G (IgG) ELISA As Reported As Repor	BVDV Serum Neutralization	Alpha Antibody Test			
Biochemical Testing - Proteins & Organic Compounds Alkaline Phosphatase As Reported Blood Urea Nitrogen (BUN) As Reported Cholesterol As Reported As Reported As Reported Creatinine Glucose Glucose As Reported Glutamic Oxaloacetic Transaminase (AST) As Reported As Reported As Reported Blutamic Pyruvic Transaminase (ALT) As Reported As Reported As Reported As Reported As Reported Blut/L Blut	BVDV Antibody Type 1		As Reported	10 ^{2.95}	TCID ₅₀ /mL
Alkaline Phosphatase Blood Urea Nitrogen (BUN) As Reported Cholesterol As Reported As Repo	BVDV Antibody Type 2		As Reported	No Neutralization	N/A
Blood Urea Nitrogen (BUN) Cholesterol Cholesterol As Reported As Reported As Reported As Reported 28 mg/dL Creatinine As Reported 2.6 mg/dL Glucose As Reported 93 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 44 IU/L Glutamic Pyruvic Transaminase (ALT) High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported 59.3 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 6 mg/dL Total Bilirubin As Reported 0.3 mg/dL Triglyceride	Biochemical Testing - Proteins & Organic Compou	nds			
Cholesterol Creatinine As Reported As Reported As Reported 2.6 mg/dL Glucose As Reported 93 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported Glutamic Pyruvic Transaminase (ALT) As Reported High Density Lipoprotein Cholesterol (HDL) As Reported Belisa As Reported As Reported Belisa Belisa Belisa Belisa Belisa Belsa	Alkaline Phosphatase		As Reported	207	IU/L
Creatinine Glucose As Reported Glutamic Oxaloacetic Transaminase (AST) As Reported Glutamic Pyruvic Transaminase (ALT) As Reported High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported As Reported Bull As Reported Bull As Reported Bull As Reported Bull Bull Bull Bull Bull Bull Bull Bul	Blood Urea Nitrogen (BUN)		As Reported	14	mg/dL
Glucose As Reported 93 mg/dL Glutamic Oxaloacetic Transaminase (AST) As Reported 44 IU/L Glutamic Pyruvic Transaminase (ALT) As Reported 6 IU/L High Density Lipoprotein Cholesterol (HDL) As Reported 8 mg/dL Immunoglobulin G (IgG) ELISA As Reported 59.3 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 6 mg/dL Total Bilirubin As Reported 0.3 mg/dL Triglyceride As Reported 71 mg/dL	Cholesterol		As Reported	28	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 Triglyceride As Reported As Reported As Reported As Reported As Reported O.3 mg/dL As Reported As Reported Triglyceride	Creatinine		As Reported	2.6	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 As Reported As Reported O.3 mg/dL As Reported As Reported As Reported Triglyceride	Glucose		As Reported	93	mg/dL
High Density Lipoprotein Cholesterol (HDL) Immunoglobulin G (IgG) ELISA As Reported 59.3 µg/mL Low Density Lipoprotein Cholesterol (LDL) Total Bilirubin Triglyceride As Reported As Reported 6 mg/dL As Reported 0.3 mg/dL As Reported 71 mg/dL	Glutamic Oxaloacetic Transaminase (AST)		As Reported	44	IU/L
Immunoglobulin G (IgG) ELISA As Reported 59.3 µg/mL Low Density Lipoprotein Cholesterol (LDL) As Reported 6 mg/dL Total Bilirubin As Reported 0.3 mg/dL Triglyceride As Reported 71 mg/dL	Glutamic Pyruvic Transaminase (ALT)		As Reported	6	IU/L
Low Density Lipoprotein Cholesterol (LDL) Total Bilirubin As Reported As Reported O.3 mg/dL Triglyceride As Reported 71 mg/dL	High Density Lipoprotein Cholesterol (HDL)		As Reported	8	mg/dL
Total Bilirubin As Reported 0.3 mg/dL Triglyceride As Reported 71 mg/dL	Immunoglobulin G (IgG)	ELISA	As Reported	59.3	μg/mL
Triglyceride As Reported 71 mg/dL	Low Density Lipoprotein Cholesterol (LDL)		As Reported	6	mg/dL
	Total Bilirubin		As Reported	0.3	mg/dL
Uric Acid As Reported 2.5 mg/dL	Triglyceride		As Reported	71	mg/dL
	Uric Acid		As Reported	2.5	mg/dL

Biochemical Testing - Electrophoretic Profile	Cellulose Acetate Electrophoresis	Normal	Normal	N/A
Albumin		As Reported	2.0	g/dL
Alpha		As Reported	1.2	g/dL
Beta		As Reported	0.3	g/dL
Gamma		As Reported	0	g/dL
Biochemical Testing - Trace Metals				
Calcium		As Reported	13.5	mg/dL
Chloride		As Reported	97	mmol/L
Iron		As Reported	192	μg/dL
Magnesium		As Reported	3.2	mg/dL
Phosphorus		As Reported	10.2	mg/dL
Potassium		As Reported	>10.0	mmol/L
Sodium		As Reported	135	mmol/L
Biochemical Testing - Hormones				
Cortisol		As Reported	<0.20	μg/dL
Insulin		As Reported	4.39	μIU/mL
Progesterone		As Reported	<0.1	ng/mL
Testosterone		As Reported	<0.01	ng/mL
Т3		As Reported	118.0	ng/dL
T4		As Reported	18.5	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.

This product has been granted a Certificate of Suitability, R0-CEP 2018-271, by the European Directorate for the Quality of Medicines (EDQM) certifying that the product meets the criteria described in the current version of the monograph no. 1483 of the European Pharmacopoeia "Product with risk of transmitting agent of animal spongiform encephalopathies"

Origin and BSE/TSE Statements:

The aforementioned lot was manufactured from fetal bovine blood collected from government approved harvest facilities located in the United States, 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.

Lot Number: 22821001

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

Written By/Date:

Reviewed By/Date: Michael My 27 SEP 2021



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