



# Certificate of Analysis

**Fetal Bovine Serum, Characterized**  
**Triple 0.1µm sterile filtered**  
**9 CFR Virus & Mycoplasma Tested**  
**Origin: 100% USA, Collected and Processed in USA**

**Catalog Number: 25-514**  
**Lot Number: P063332**  
**Manufacture Date: 04/2017**  
**Expiration Date: 04/2022**

TEST	METHOD	SPECIFICATION	RESULT
Endotoxin	Current USP <85>, LAL	<10 EU/mL	<0.5000 EU/mL
Hemoglobin	Fleming, A.F. and Woolf, A.J.	<25 mg/dL	15.65 mg/dL

## Microbiological Testing

TEST	METHOD	SPECIFICATION	RESULT
Sterility (Bacteria & Fungi)	Current Edition of USP <71> and EP 6.2.1	Not Detected	Not Detected
Mycoplasma	Barile, M.F. and Kern, J.	Not Detected	Not Detected

## Virus Testing

TEST	METHOD	SPECIFICATION	RESULT
	9 CFR 113.53c		
Cytopathic Agents		Not Detected	Not Detected
Hemadsorbing Agents		Not Detected	Not Detected
Extraneous Virus (FAB)			
Bluetongue Virus		Not Detected	Not Detected
Bovine Adenovirus		Not Detected	Not Detected
Bovine Parvovirus		Not Detected	Not Detected
Bovine Respiratory Syncytial Virus		Not Detected	Not Detected
Bovine Viral Diarrhea Virus		Not Detected	Not Detected
Rabies (RabdoVirus)		Not Detected	Not Detected
Reovirus		Not Detected	Not Detected

## Physical Analyses

TEST	METHOD	SPECIFICATION	UNITS	RESULT
Protein electrophoresis	Cellulose acetate			
Alpha 1 + 2		Check & Record	g/dL	1.1
Beta 1 + 2		Check & Record	g/dL	0.3
Gamma 1		Check & Record	g/dL	0.1
Osmolality	USP<785>	Check & Record	mOsm/Kg	307
pH	USP<791>	Check & Record	N/A	7.12
Specific Gravity		Check & Record	N/A	1.021



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Biochemical Assay	SPECIFICATION	UNITS	RESULT
Albumin	Check & Record	g/dL	2.1
Alkaline Phosphatase	Check & Record	U/L	193
Blood Urea Nitrogen (BUN)	Check & Record	mg/dL	15
Creatinine	Check & Record	mg/dL	2.5
Cholesterol	Check & Record	mg/dL	28
Glucose	Check & Record	mg/dL	128
AST (SGOT)	Check & Record	U/L	39
ALT (SGPT)	Check & Record	U/L	5
IgG (ELISA)	Check & Record	µg/mL	166
Low Density Lipoproteins (LDL)	Check & Record	mg/dL	19
High Density Lipoproteins (HDL)	Check & Record	mg/dL	9
Lactate Dehydrogenase (LDH)	Check & Record	U/L	511
Total Bilirubin	Check & Record	mg/dL	0.2
Total Protein	Check & Record	g/dL	3.4
Triglycerides	Check & Record	mg/dL	68
Uric Acid	Check & Record	mg/dL	2.8
Calcium	Check & Record	mg/dL	13
Chloride	Check & Record	mEq/L	94
Inorganic Phosphorus	Check & Record	mg/dL	9.5
Iron	Check & Record	µg/dL	155
Total Iron Binding Capacity	Check & Record	µg/dL	249
Iron Percent Saturation	Check & Record	%	62
Potassium	Check & Record	mEq/L	>10.0
Sodium	Check & Record	mEq/L	135
Tetracycline	Check & Record	µg/mL	<0.010

Hormone Profile	SPECIFICATION	UNITS	RESULT
Estrogen (Estradiol)	Check & Record	pg/mL	33.4
Insulin	Check & Record	µIU/mL	8.20
Progesterone	Check & Record	ng/mL	<0.05
Testosterone	Check & Record	ng/mL	<0.01
T3	Check & Record	ng/mL	183
T4	Check & Record	µg/dL	14.4
Cortisol	Check & Record	µg/dL	0.226

**Intended Use:** This product is intended for in vitro use only. This product is not intended for drug, human, or therapeutic use, and is not for human or animal consumption. **Country of Raw Material Origin:** This product was manufactured from fetal bovine blood collected exclusively from approved harvest facilities. All fetal bovine serum used in this product is derived from fetuses collected from cows that are of 100% United States origin, have passed ante- and post-mortem inspection, and were found free of contagious diseases. All harvest facilities are USDA inspected and located within the continental United States of America. **Country of Final Processing:** This product was processed in the USA under the strict guidance of cGMP guidelines the standardization and traceability blueprint established by the International Serum Industry Association (ISIA). **NOTICE:** Turbidity or flocculent debris may develop upon thawing or storage. This condition does not adversely affect performance characteristics of the serum.

Quality Assurance

Electronic Signature:

Mike Brosche

Date: 05/25/2017