ATLAS BIOLOGICALS
2649 E. Mulberry St. #A3
Fort Collins, CO 80524
970-494-2051
Toll Free: 866-222-8988
sales@atlasbio.com
www.atlasbio.com

Certificate of Analysis

Trade Name: Equalfetal® Bovine Serum
Description: 100% Bovine Neonatal Serum
Lot Number Determined at the time of manufacture
Catalog Numbers: EF-0500-A, EF-0050-A
Country of Origin: United States of America

Expiration Date: Determined at the time of manufacture
Storage Temperature: -10 to -30°C
Manufacture Date:
Country of Final Processing: United States of America
Membrane Filtered: Triple 0.1µm

Product Integrity Analysis*

Test Description	Specification	Results	Method or Reference
Bacteria and Fungi/Sterility	No Growth		USP <71>/EP 2.6.1/21 CFR
Electrophoretic ID	Characteristic		Gel Electrophoresis
Endotoxin	< 10 EU/mL		USP <85>, Limulus Amebocyte Lysate (LAL)
Hemoglobin	< 30 mg/dL		Three-wavelength Polychromatic Analysis
Mycoplasma	Not Detected		Barile, M.F. and Kern, J., Proc. Soc. Exp. Biol., 1971; 138:432-7
Osmolality	270-330 mOsm/kg		USP <785>, Freezing point Depression
pH at room temperature	7.0-8.0		USP <791>
Total Protein	3.0-4.5 g/dL		Spectrophotometry

Adventitious Agents*

Method: 9 CFR 113.53c with final analysis by 113.46 and 113.47

Adventitious Agent	Specification	Results	Adventitious Agent	Specification	Results
Blue Tongue Virus	Not Detected		Cytopathic Agents	Not Detected	
Bovine Adenovirus, Group A (type 1 or 3)	Not Detected		Hemadsorbing Agents	Not Detected	
Bovine Adenovirus, Group B (type 5)	Not Detected		Infectious Bovine Rhinotracheitis (IBR)	Not Detected	
Bovine Parvovirus	Not Detected		Parainfluenza 3 (PI3)	Not Detected	
Bovine Respiratory Syncytial Virus	Not Detected		Rabies Virus	Not Detected	
Bovine Viral Diarrhea Virus (BVDV)	Tested		Reovirus	Not Detected	

Serum Antibody Neutralization: Alpha-SN BVDV Genotype 1: Alpha-SN BVDV Genotype 2:

Biochemical Analysis*

Method: 1. Photometric chemical analyzer 2. Ouchterlony double diffusion 3. Protein Electrophoresis 4. LC-MSMS - Listed for informational purposes only.

Component	Reported Result[1]	Component	Reported Result[1]	Electrophoretic Profile[3]		
A/G Ratio	Ratio	Iron	µg/dL	Fraction	% TP	g/dL
Albumin	g/dL	Magnesium	mg/dL	Albumin		
Alkaline Phosphatase (ALP)	I.U./L	Phosphorus	mg/dL	Alpha 1/2		
Aspartate Transferase (AST)	I.U./L	Potassium	meq/L	Beta		
Bicarbonate	meq/L	Sodium	meq/L	Gamma		
Bilirubin, Total	mg/dL	Triglyceride	mg/dL			
Blood Urea Nitrogen (BUN)	mg/dL	**Hormone-Tests**				
Calcium	mg/dL	Testosterone baseline RIA	ng/mL	**Tetracycline Antibiotics[4]**		
Chloride	meq/L	Estradiol baseline -Immulite	pg/mL	Chlortetracycline	3	
Cholesterol	mg/dL	Insulin: Bovine/Rodent - RIA	µIU/mL	Doxycycline		
Creatine Kinase (CK)	I.U./L	Progesterone- RIA- Bovine	ng/mL	Oxytetracycline		
Creatinine	mg/dL	T4 (Thyroxine) - Immulite	µg/dL	Tetracycline		
Gamma-Glutamyltransferase (GGT)	I.U./L	**Precipitation-Test[2]**				
Globulin	g/dL	Bovine Antibody				
Glucose	mg/dL	Equine Antibody				
IgG by ELISA, Bovine	µg/mL	Porcine Antibody				

Intended Use and Affiliations

For further manufacturing use. NOT FOR HUMAN OR ANIMAL CONSUMPTION. Product Meets European Union Requirements for Production of Technical Blood Products. Atlas has been granted a Certificate of Suitability by the European Directorate for the Quality of Medicines and Healthcare (EDQM); certificates are available upon request. Trade Control and Expert System Facility (TRACES) registered by the United States Department of Agriculture (USDA)-APHIS, facility number CO-TEC-0005. Facility is registered with the U.S. Food and Drug Administration.

Independently audited and certified for traceability by the International Serum Industry Association.

Quality Assurance: _____ Date: _____ Issue No. _____

*Results shown were obtained by independent test organizations according to agreed requirements and believed to be reliable. It is suggested that tests which are particularly important to the end user be repeated for validity. Some results may vary depending on methodology and other variables.