



1121 13th St. #187 Boulder, CO. 80302 USA

Web: www.upsilon-bio.net

Fax: 001-323- 510-4660

Phone: 001-323- 510-4660

Email : info@upsilon-bio.com

Certificate of Analysis

Fetal Bovine Serum, Embryonic Stem Cell Pre-tested

Catalog Number: **FBS-ES-500**

Lot Number: **UA230J**

Storage Temperature: **-5 to-20°C**

Expiration Date: **06/2028**

Country of Origin: **Australia**

For In Vitro Diagnostic Use Triple 0.1 micron filtered

TEST	METHODOLOGY	SPECIFICATION	RESULTS
Biological Testing			
Endotoxin	USP<85>	<10. EU/mL	0.3 EU/mL
Hemoglobin	Fleming, AF and Woolf, AJ (1965)	< 35 mg/100mL	9.6 mg/dL
Microbiological Testing			
Sterility	USP<71>	Not Detected	
Bacteria		Not Detected	Not Detected
Fungi		Not Detected	Not Detected
Mycoplasma	Barile, MF and Kern, J (1971)	Not Detected	Not Detected
Viral Testing 9 CFR 113.53c [113.46, 113.47]			
Cytopathic Agents		Not Detected	Not Detected
Hemadsorbing Agents		Not Detected	Not Detected
Bovine Viral Diarrhea Ab Titer		Not Detected	Not Detected
Type I			1:1
Type II			1:1



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TEST	METHODOLOGY	SPECIFICATION	RESULTS
Extraneous Viruses (FAb)		Not Detected	Not Detected
Bovine Adenovirus		Not Detected	Not Detected
Bovine Parvovirus		Not Detected	Not Detected
Bovine Viral Diarrhea (cytopathic)		Not Detected	Not Detected
Bovine Viral Diarrhea (non-cytopathic)		Not Detected	Not Detected
Bovine Syncytial Virus		Not Detected	Not Detected
Bovine Rabies Virus		Not Detected	Not Detected
Reovirus		Not Detected	Not Detected
Physical Testing			
Electrophoretic Pattern	Cellulose Acetate	Normal	Normal
Osmolality	USP<785>	260 – 340 mOsm/kg	291mOsm/kg
pH @ RT	USP<791>	6.7 – 8.0	7.1
Albumin			2.3 g/dL
Alkaline Phosphatase			258 U/L
ALT (SGPT)			5.0 U/L
AST (SGOT)			23.0 U/L
Bilirubin, Total			0.2 mg/dL
BUN			20.0 mg/dL
Calcium			3.58 mM
Chloride			103 mM



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TEST	METHODOLOGY	SPECIFICATION	RESULTS
Cholesterol			40.0 mg/dL
Cortisol			7.75 nM
Creatinine			2.8 mg/dL
Estrogen			93.6 pM
Glucose			3.39 mM
IgG	ELISA		0.17 mg/mL
Insulin			40.3 pM
Iron, Serum			175 ug/dL
Phosphorus			8.6 mM
Potassium			11.6 mM
Progesterone			<0.16 nM
Protein, Total	Biuret	30 – 50 g/L	39 g/L
Sodium			141 mM
Testosterone			<0.04 nM
T3			1.76 nM
T4			202.1 nM
Triglycerides			66 mg/dL
Tetracycline			<4 ng/mL
Uric Acid			1.6 mg/dL

Cell Culture

Cell Growth	As Reported	Desirable
Cloning Efficiency	As Reported	Desirable
Cytopathic Effects :	None	Pass



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Results shown were obtained by carefully performed methods believed to be reliable. However, since some results may vary by methodology, it is suggested that tests for which results are particularly critical be repeated by the end user. Our fetal bovine serum meets all USDA requirements and has passed ante- and post-mortem inspection by a licensed veterinarian. It is collected in countries recognized as being free of foot-and-mouth disease and rinderpest. The origin of all fetal bovine serum is traceable by lot number, date and country of collection. Precipitates may develop in this product upon freezing and/or thawing; this occurrence does not impact culture performance.

QUALITY ASSURANCE:

M Van Oe

QUALITY CONTROL:

Charles...

DATE: July 6, 2023



Wayne D. Williams

Secretary of State of the State of Colorado