



CERTIFICATE OF ANALYSIS

Name	Fetal Bovine Serum TRIPLE 0.1 MICRON FILTERED	Mfg. Date:	Feb 2005
Catalog Number	7101	Exp. Date:	Mar 2010
Lot Number	10119		

CHEMICAL ANALYSIS		
Albumin	2.6	g/dl
ALT	10.9	U/L
AP	204.0	U/L
AST	34.0	U/L
Bilirubin Total	0.2	mg/dl
Bun	13.0	mg/dl
Calcium	9.6	mg/dl
Chloride	89.0	mEq./l
Cholesterol	19.0	mg/dl
CK	140.0	U/L
Creatinine	1.5	mg/dl
GGT	3.0	U/L
Globulin	1.2	g/dl
Glucose	74.0	mg/dl
Iron	167.0	mcg/dl
Osm	309.0	mOsm/kg
Phosphorus	8.1	mg/dl
Potassium	10.2	mEq./l
SDH	20.1	U/L
Sodium	138.0	mEq./l
Total Protein (Biuret)	3.8	g/dl
pH	7.2	

SERUM PROTEIN ELECTROPHORESIS		
Albumin	2.6	gm/dl
Alpha 1 + Alpha 2	1.1	gm/dl
Beta + Gamma	0.1	gm/dl
A/G Ratio	2.17	

MICROBIOLOGICAL ANALYSIS		
Sterility	Sterile	
Mycoplasma Species	Negative	
Hemoglobin	8.0	mg/dl
Endotoxin ⁽¹⁾	< 0.125	ng/ml

⁽¹⁾ - 10 EU/ml = 1 ng/ml of endotoxin standard.

ADVENTITIOUS VIRUS		
Bovine reovirus	Negative	⁽²⁾
Bluetongue virus	Negative	⁽²⁾
Bovine adenovirus 3	Negative	⁽²⁾
Bovine adenovirus 5	Negative	⁽²⁾
Bovine parvovirus	Negative	⁽²⁾
BRSV	Negative	⁽²⁾
BVD	Negative	⁽²⁾
IBR	Negative	⁽²⁾
PI-3	Negative	⁽²⁾
VI/Vesicular Stomatitis	Negative	

⁽²⁾ - tests were performed following 9-CFR (113.53, 113.46, 113.47) procedures

ANTIBODY VIRUS NEUTRALIZATION			
BVD	1:2	IBR	<2
PI-3	<2	RSV	<2

IMMUNOGLOBULINS		
IGG 1	27.0	mg/dl
IGM	Negative	

CERTIFICATE OF ORIGIN

This to certify that the raw materials from which this serum was manufactured was collected and processed in United States of America.

Signature On File

Date June 2005



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GROWTH PROMOTION ¹

Cell Line	MRC-5 (DIPLOID FIBROBLAST)
Number Of Passages	4
Relative Growth Promotion	98%

PLATING EFFICIENCY ²

Cell Line	A549 (HUMAN LUNG CARCINOMA)
Plating Efficiency	99%
Relative Plating Efficiency	99%

CLONING EFFICIENCY ³

Cell Line	SP2/0-AG14 (MOUSE MYELOMA)
Cloning Efficiency	98%
Relative Cloning Efficiency	98%

¹ Growth promotion shows the ability of the serum to support the growth of cell line using a standardized inoculum in medium with 10% serum for more than three serial passages. It is expressed as the average ratio of viable cells relative to an internal validated standard.

² Plating efficiency determines the ability of the serum of growing in a continuous adherent cell line of a low density inoculum using medium with 10% serum. It is expressed as relative plating efficiency to an internal validated standard.

³ Cloning efficiency quantifies the ability of the serum to support the cloning and growth of myeloma and hybridoma cells. The assay is performed using medium containing 10% serum with standardized inoculum and expressed as relative cloning efficiency to an internal validated standard.

Signature **On File**

Date **June 2005**