

Certificate of Analysis

Date of Testing:	2022-10-09 12:21:47
Date of Next Testing:	2026-10-08 12:21:47
Product Name:	L-Cystine
CAS Number:	56-89-3
Specifications & Purity:	from non-animal source, meets EP testing specifications, suitable for cell culture
Lot #:	I2227023
SKU #	C118619
Analysis:	141869

Parameter	Limit Values	Result
Endotoxin Assay	0-50 (EU/g)	22.11 EU/g
Chloride	0-0.02 (%)	0.02 %
Iron(Fe)	0-10 (ppm)	2.36 ppm
Heavy metal (as Pb)	0-10 (ppm)	5.54 ppm
Specific Rotation [α] ₂₀ /D(c=2 in 1N HCl in dried basis)	-224--218 (°)	-218.01 °
Sulfate Ash	0-0.1 (%)	0.02 %
Purity(HPLC)	98.5-100 (%)	99.06400 %
Sulfate(SO ₄ ²⁻)	0-0.03 (%)	0.03 %
Ammonia (NH ₄)	0-200 (ppm)	100.36 ppm
Loss on drying	0-0.5 (%)	0.04 %
Appearance (C118619)	White Powder or Crystals	White Powder or Crystals
Cytotoxicity	Pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure
Ninhydrin-Positive Substances	Conforms	Conforms
Origin	non-animal source	non-animal source
Residual solvents	complies	complies



ALADDIN SCIENTIFIC CORPORATION

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A handwritten signature in black ink that reads "John Su".

John Su
QA & QC Manager