

## Certificate of Analysis

Date of Testing:	2023-08-19 16:57:31
Date of Next Testing:	2026-08-18 16:57:31
Product Name:	<b>L-Cysteine hydrochloride</b>
CAS Number:	52-89-1
Specifications & Purity:	anhydrous, from non-animal source, BioReagent, suitable for cell culture, $\geq 98.0\%$
Lot #:	H2318626
SKU #	<b>L432833</b>
Version	<b>1</b>
<b>Analysis #:</b>	<b>259741</b>
Storage Temperature:	Protected from light, Argon charged

Parameter	Limit Values	Result
Specific Rotation(c=8 in 1 M HCl at 20 deg C)	5.6-8.9 (°)	7.00000 °
Heavy metals	0-10 (ppm)	5.22 ppm
Arsenic(As)	0-1 (ppm)	0.12100 ppm
Loss on drying	0-1 (%)	0.75 %
Residue on ignition(Ash)	0-1 (%)	0.06000 %
PH(1% in Water)	1.5-2.0	1.70
Assay(dry basis)	98-102.5 (%)	100.10 %
Endotoxin Level	$\leq 1$ (EU/mg)	0.90000 EU/mg
Solubility in H <sub>2</sub> O , 50mg/ml, clear, colorless	pass	Pass
Infrared spectrum	Conforms to structure	Conforms to Structure
Origin	Non-Animal Source	non-animal source
Appearance(L432833)	White to Off White Powder or Crystals	White to Off White Powder or Crystals
Cell Culture Test	pass	Pass
Ninhydrin-Positive Substances	Conforms	Conforms



ALADDIN SCIENTIFIC CORPORATION

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A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su  
QA & QC Manager