

## Certificate of Analysis

Date of Testing: 2023-08-30 14:48:01  
 Date of Next Testing: 2027-08-29 14:48:01  
 Product Name: **L-(+)-Lysine Monohydrochloride**  
 CAS Number: 657-27-2  
 Specifications & Purity: from non-animal source,EP,JP,USP ; for cell culture,98.5 to 101.0%  
 Lot #: H2322267  
 SKU #: **L113006**  
**Analysis:** **254102**  
 Storage Temperature: Room temperature

Parameter	Limit Values	Result
Sulfate(SO42-)	0-0.02 (%)	0.01 %
Heavy metal (as Pb)	0-10 (ppm)	2.31 ppm
Ammonia (NH4)	0-0.02 (%)	0.01 %
Loss on drying	0-0.4 (%)	0.18 %
Ignition Residue (as sulfate)	0-0.1 (%)	0.04 %
Iron(Fe)	0-10 (ppm)	1.28 ppm
Endonuclease Detection	0-1 (EU/g)	0.34 EU/g
(As)Arsenic	0-1 (ppm)	0.25 ppm
PH test	5-6	5.59
Specific Rotation [α] <sub>25</sub> /D(c=8 in 6M HCL)	20.4-21.4 (°)	20.41°
Purity	98.5-100.5 (%)	100.49 %
Chloride (Cl-)	19.12-19.51(%)	19.50 %
Appearance (L113006)	White to Off White Powder or Crystals	White to Off White Powder or Crystals
Cell Culture Test	pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure
Ninhydrin-positive substances (other amino acids)	Conforms	Conforms
Residual solvents	complies	complies
Solubility,1g/5ml water	Clear colorless	Clear Colorless



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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