

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-02-17 10:59:24  
Date of Next Testing: 2029-02-16 10:59:24  
Product Name: **L(+)-Glutamic acid**  
CAS Number: 56-86-0  
Specifications & Purity: Animal Free, USP, JP, Ph.Eur., for cell culture, ≥98.5%  
Lot #: B2514380  
SKU #: **G107510**  
Version: **4**  
Analysis #: **442455**

Parameter	Limit Values	Result
(As)Arsenic	0-1 (ppm)	0.00 ppm
Loss on drying	0-0.1 (%)	0.10 %
Endonuclease Detection	0-0.1 (EU/g)	0.00 EU/g
Iron(Fe)	0-10 (ppm)	0.00 ppm
Ignition Residue (as sulfate)	0-0.1 (%)	0.00 %
Chloride	0-0.02 (%)	0.00 %
Heavy metal (as Pb)	0-10 (ppm)	0.00 ppm
Sulfate(SO42-)	0-0.02 (%)	0.00 %
PH test	3-3.5	3.00
Ammonia (NH4)	0-0.02 (%)	0.02 %
Assay(dry basis)	98.5-101 (%)	99.39 %
Specific Rotation [α] <sub>20</sub> /D(c=10 in 2N HCl)	31.5-32.5 (°)	31.51°
Appearance (G107510)	White powder	White powder
Solubility, Colorless, Clear, 1.0 g to 10 ml of 2 M HCl	pass	Pass
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



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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