

Certificate of Analysis

Date of Testing: 2022-03-10 16:02:38
 Date of Next Testing: 2026-03-09 16:02:38
 Product Name: **L(+)-Glutamic acid**
 CAS Number: 56-86-0
 Specifications & Purity: from non-animal source,EP,JP,USP ; for cell culture,98.5 to 101.0%
 Lot #: C2205578
 SKU #: **G107510**
 Analysis: **070058**

Parameter	Limit Values	Result
(As)Arsenic	0-1 (ppm)	0.06 ppm
Sulfate(SO ₄ ²⁻)	0-0.02 (%)	0.01 %
PH test	3-3.5	3.30
Loss on drying	0-0.1 (%)	0.05 %
Ammonia (NH ₄)	0-0.02 (%)	0.01 %
Endonuclease Detection	0-0.1 (EU/g)	0.03 EU/g
Iron(Fe)	0-10 (ppm)	5.00 ppm
Assay	98.5-100.5 (%)	98.91 %
Ignition Residue (as sulfate)	0-0.1 (%)	0.03 %
Chloride	0-0.02 (%)	0.00 %
Heavy metal (as Pb)	0-10 (ppm)	6.00 ppm
Assay(dry basis)	98.5-101 (%)	99.37 %
Specific Rotation [α] _D ²⁰ (C=10 in 1 M HCl)	31.5-32.4 (°)	31.51000°
Ninhydrin-positive substances (other amino acids)	Conforms	Conforms
Residual solvents	complies	complies
Solubility,Colorless , Clear , 1.0 g to 10 ml of 2 M HCl	pass	Pass
Appearance (G107510)	white powder	White powder
Infrared spectrum	Conforms to Structure	Conforms to Structure
Cell Culture Test	pass	Pass



ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

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

John Su
QA & QC Manager