

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2026-06-22 17:00:20
 Date of Next Testing: 2030-06-21 17:00:20
 Product Name: **L(+)-Glutamic acid**
 CAS Number: 56-86-0
 Specifications & Purity: Animal Free, USP, JP, Ph.Eur., for cell culture, ≥98.5%
 Lot #: GMF2609187
 SKU #: **L774633**
 Version: **1**
 Analysis #: **729921**
 Storage Temperature: Room temperature, Argon charged, Cool

Parameter	Limit Values	Result
Assay(alkalimetric , calculated on dried substance)	99.0-100.5 (%)	99.93000 %
Specific Rotation [α] ₂₀ /D(C=10 in 1mol/L HCl calc. on dried substance)	30.5-32.5 (°)	31.41899 °
Specific Rotation [α] ₂₀ /D(C=10 in 2mol/L HCl calc. on dried substance)	31.5-32.5 (°)	31.89853 °
pH (7 g/l CO ₂ -free water)	2.9-3.9	3.23000
Chloride(Cl)	0-200 (ppm)	0.00000 ppm
Sulfate(SO ₄)	0-200 (ppm)	0.00000 ppm
Fe(Iron)	0-10 (ppm)	0.00000 ppm
Ammonium	0-100 (ppm)	12.50379 ppm
Loss on drying(105 °C, 3 h)	0-0.3 (%)	0.17808 %
Sulfated ash(600 °C)	0-0.1 (%)	0.03000 %
Heavy metals (as Pb)	0-10 (ppm)	0.00000 ppm
Related Compounds(Amount of each amino acid)	≤ 0.2 (%)	0.01000 %
Related substances (Sum of amino acids)	≤ 0.6 (%)	0.01000 %
Endotoxin Level	0-1 (EU/mg)	0.00000 EU/mg
Appearance(L774633)	white to almost white, crystalline powder or colorless crystals	white to almost white, crystalline powder or colorless crystals
Identity (IR-spectrum)	conforms	Conforms
Identity (EP)(C)	passes test	Passes test
Identify(EP)(D)	Pass	Pass
Appearance of solution (100 g/L in 1mol/L HCl)(clear and colorless)	Pass	Pass

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Parameter	Limit Values	Result
Appearance of solution (100 g/L in 2mol/L HCl)(clear and colorless)	Pass	Pass
Ninhydrin-Positive Substances	Conforms	Conforms
Cell Culture Test	pass	Pass
Origin	Non-Animal Source	non-animal source

A handwritten signature in black ink that reads "John Su".John Su
QA & QC Manager