

ALADDIN SCIENTIFIC CORPORATION
 14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2025-12-11 11:08:12
 Date of Next Testing: 2028-12-10 11:08:12
 Product Name: **L-Glutamine**
 CAS Number: 56-85-9
 Specifications & Purity: Moligand™, Animal Free, USP, for cell culture, ≥99%
 Lot #: L2508687
 SKU #: **L432948**
 Version: **2**
 Analysis #: **607674**

Parameter	Limit Values	Result
Purity(dry basis) (Titration)	99.0-101.0 (%)	99.30 %
Chloride Content	0-0.02 (%)	0.01 %
Ammonium (NH4)	0-0.1 (%)	0.05000 %
Sulfate(SO4)	0-0.02 (%)	0.01000 %
Iron(Fe)	0-10 (ppm)	5.18 ppm
Arsenic(As)	0-1 (ppm)	0.25200 ppm
Residue on ignition(Ash)	0-0.1 (%)	0.03000 %
PH 2% Water	4.5-6.0	4.80
Specific Rotation [α] ₂₀ /D(c=4 in H ₂ O)	6.3-7.3 (°)	6.60°
loss on drying(105°C,3 h)	0-0.3 (%)	0.05 %
Endotoxin Level(30 mg/mL)	0-1 (EU/ml)	0.49100 EU/ml
Infrared spectrum	Conforms to structure	Conforms to Structure
NMR Spectrum 1H	Conforms to structure	Conforms to Structure
Ninhydrin-Positive Substances	Conforms	Conforms
Residual Solvents USP <467>	meets the requirements	meets the requirements



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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