

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

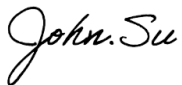
Date of Testing:	2024-09-03 09:55:23
Date of Next Testing:	2028-09-02 09:55:23
Product Name:	L-Arginine
CAS Number:	74-79-3
Specifications & Purity:	from non-animal source, meets EP, USP specifications, suitable for cell culture, 98.5-101.0%
Lot #:	L2003103
SKU #	A118651
Version	1
Analysis #:	405948
Storage Temperature:	Argon charged

Parameter	Limit Values	Result
Chloride (Cl-)	0-0.05 (%)	0.00 %
Iron(Fe)	0-30 (ppm)	0.01 ppm
Heavy metals	0-10 (ppm)	9.00 ppm
Sulfate(SO42-)	0-0.03 (%)	0.00 %
Nitrogen by Elemental Analysis	31.5-32.5 (%)	31.60 %
Loss on drying	0-0.5 (%)	0.20 %
Ignition Residue	0-0.3 (%)	0.04 %
Endotoxin Assay	0-1 (EU/mg)	0.60 EU/mg
PH	10.5-12	10.60
Purity(as dry basis)	98.5-101 (%)	99.10 %
Carbon by Elemental Analysis	40.5-41.5 (%)	40.80 %
Ammonia (NH4)	0-0.02 (%)	0.01 %
specific Rotation[a]20/D(c=8 in 6M HCL)/EP	26.9-27.9 (°)	27.00°
Specific Rotation[a]25/D(c=8 in 6M HCL/USP)	26.3-27.7 (°)	26.70°
Appearance (A118651)	White crystalline powder or powder to crystal	White crystalline powder or powder to crystal
Cell Culture Test	pass	Pass
Identity by IR	Conforms to Structure	Conforms to Structure
Ninhydrin-positive substances (other amino acids)	Conforms	Conforms
Origin	non-animal source	non-animal source
Proton NMR spectrum	Conforms to Structure	Conforms to Structure

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Parameter	Limit Values	Result
Residual solvents	complies	complies
Solubility, 1g/5ml water	Clear colorless	Clear Colorless

A handwritten signature in black ink that reads "John Su".

John Su
QA & QC Manager