

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-01-07 07:31:18
 Date of Next Testing: 2026-01-06 07:29:55
 Product Name: **L-Threonine**
 CAS Number: 72-19-5
 Specifications & Purity: from non-animal source,EP,JP,USP ; for cell culture,99.0-101.0%
 Lot #: B2210586
 SKU #: **T108222**
Analysis: 064806

Parameter	Limit Values	Result
Specific Rotation [a] ₂₀ /D(c=6 in H ₂ O)	-29--27.6 (°)	-28.46 °
Purity(as dry basis)	99-101 (%)	99.69 %
PH test (USP)	5-6.5	5.64
Specific Rotation [a] ₂₅ /D(c=6 in H ₂ O)	-29.1--26.7 (°)	-28.41 °
Loss on drying	0-0.2 (%)	0.15 %
(As)Arsenic	0-1 (ppm)	0.00 ppm
Ammonia (NH ₄)	0-0.02 (%)	0.01 %
Iron(Fe)	0-10 (ppm)	0.41 ppm
Heavy metals	0-10 (ppm)	1.45 ppm
Chloride (Cl ⁻)	0-0.02 (%)	0.01 %
Sulfate(SO ₄ ²⁻)	0-0.02 (%)	0.01 %
Ignition Residue	0-0.1 (%)	0.10 %
Appearance (T108222)	White Powder or Crystals	White Powder or Crystals
Cell Culture Test	pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure
Ninhydrin-positive substances (other amino acids)	Conforms	Conforms
Origin	non-animal source	non-animal source
Residual solvents	complies	complies
Solubility in H ₂ O , Colorless,Clear,100 mg/mL, H ₂ O	pass	Pass



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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