

ALC-PROOF-NAD-1000-65 · Rev 1

ALC-1000

Catalog reference: nad-1000

Search code: ALC-PROOF-NAD-1000-65

Received: 2026-09-28

Analyzed: 2026-09-29

Reported: 2026-09-30

Lot: SYN-00065

Sample Summary

Product: NAD+ - 1,000 mg

Principal peak purity: 98.9 % (area)

Identity evidence: Not established by this report

Net content: 992.923 mg

Molecular formula: C₂₁H₂₇N₇O₁₄P₂ (reference)

Neutral mass: 663.10912 Da (monoisotopic; calculated)

Appearance: Lyophilized material

Chemical reference: [PubChem CID 5892](#)

Analytical Results

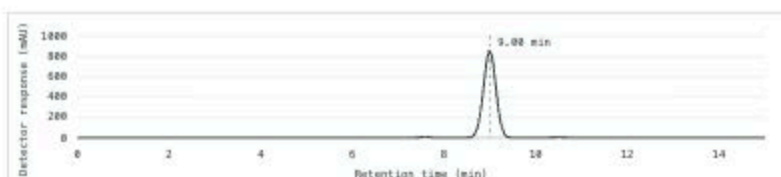
Review required

Profile profile-nad-1000 v1.

Determination / method	Result	Specification	Decision
Principal peak purity HPLC-01 · area basis Peak area percent. This is not a mass fraction.	98.9 % U = 0.08 %, k = 2	98 to 100 %	Pass simple
Net content QNT-01 · mass basis Specification applies to the declared label claim.	992.923 mg U = 15 mg, k = 2	900 to 1,100 mg	Pass guard-band

Methods: Quantitative assay; RP-HPLC with UV detection. Conditions, limits and calculated checks are included in the supporting pages.

Chromatogram



Paul Gütse

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Reviewed by

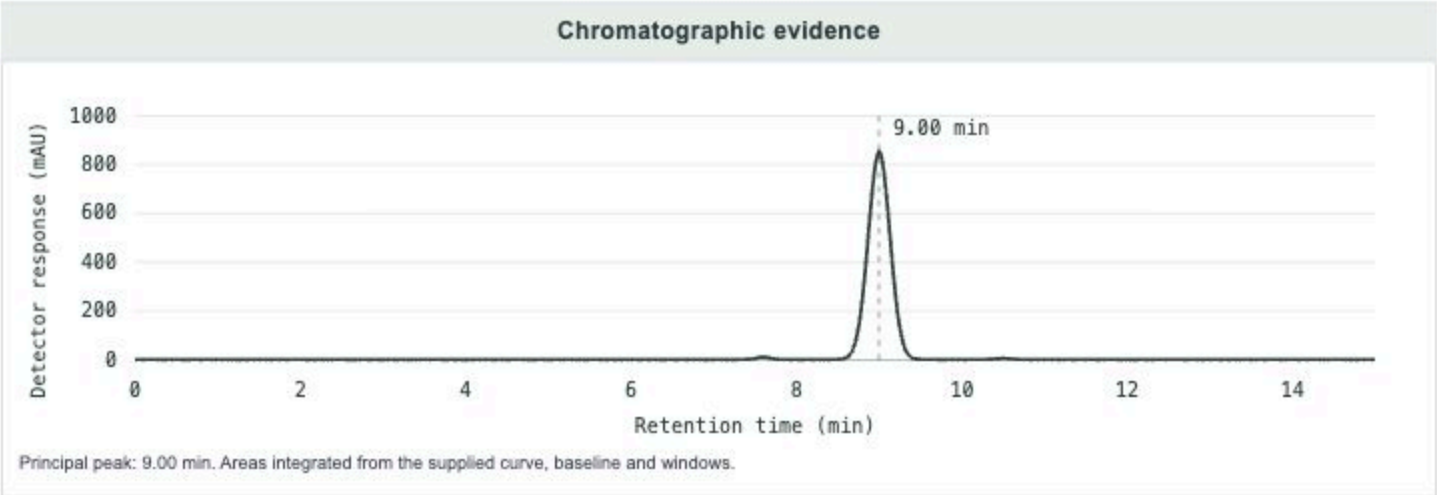
Scan report code

Local design proof
ALC-PROOF-NAD-1000-65

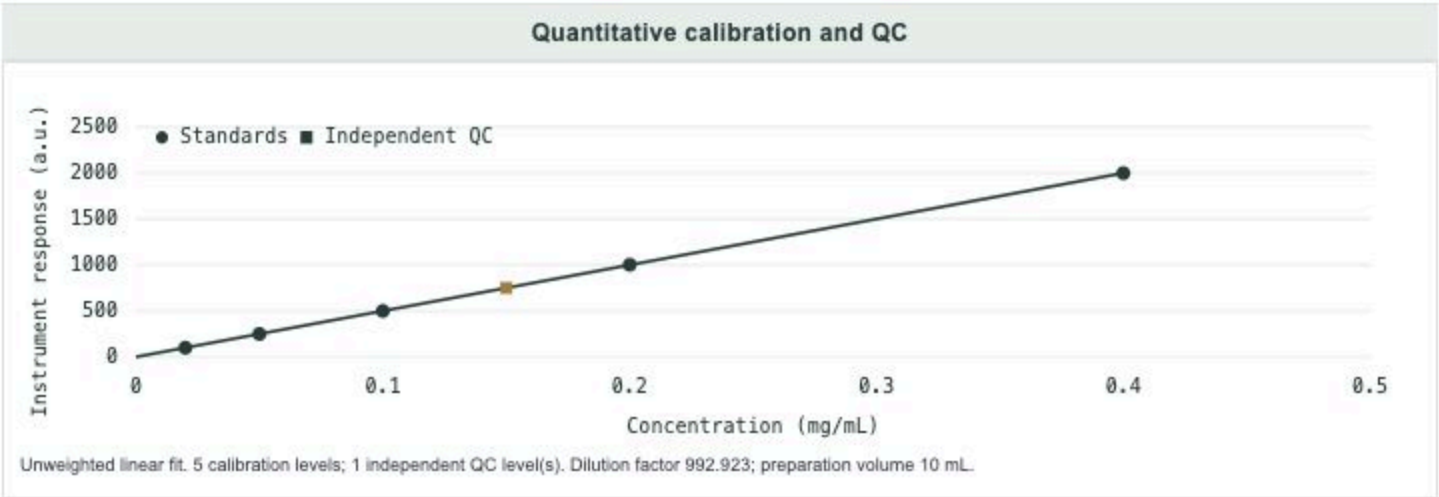


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Results apply only to the submitted sample and the methods listed in this report. Only the listed methods are covered. This report does not establish sterility, endotoxin content, biological activity or suitability for clinical use.



Integrated peak	Area (detector unit x min)	Area %
Principal peak	275.24662	98.90
Early impurity	1.99506	0.72
Late impurity	1.07735	0.39



Calculated checks and system suitability			
Analysis check	Value	Configured criterion	Assessment
Principal peak purity	98.9 % area	Minimum 98; caution below 99	review
Assay relative to label claim	99.292 %	90 to 110	pass
Total integrated impurities	1.1039 % area	Maximum 2	pass
Largest integrated impurity	0.7168 % area	Maximum 1.5	pass
Retention time	9 min	9 +/- 0.2	pass
Principal peak width at half height	0.3044 min	0.3042 +/- 30%	pass
Theoretical plates	4842	Minimum 2000	pass
Resolution to Early impurity	3.351	Minimum 1.5	pass
Resolution to Late impurity	3.443	Minimum 1.5	pass
Tailing factor at 5% height	1	Maximum 2	pass
Principal signal to baseline noise	19701	Minimum 50	pass
Calibration R squared	0.999997	Minimum 0.995	pass
Independent QC bias	0.054 %	Absolute maximum 5	pass
Calibration-derived content	992.923 mg	Agrees with reported content within uncertainty	informational

Assessment observations

WARNING · purity-caution

Purity is below the configured caution bar. Review impurity distribution.

WARNING · impurity-detected

Early impurity: 0.717% area meets the configured impurity reporting threshold 0.05%.

WARNING · impurity-detected

Late impurity: 0.387% area meets the configured impurity reporting threshold 0.05%.

Methods and decision rules

QNT-01 · Quantitative assay 1

Instrument: analytical balance

Calibration and replicate measurement. Expanded uncertainty uses $k = 2$.

Expanded measurement uncertainty uses a coverage factor of 2.

HPLC-01 · RP-HPLC with UV detection 1

Instrument: HPLC-UV

C18 column, 150 x 4.6 mm, 5 μ m; 0.1% formic acid in water/acetonitrile; 5 to 60% B over 15 min; 1.0 mL/min; 25 C; 214 nm; 10 μ L injection.

Trapezoidal integration against the declared baseline and windows.

Simple acceptance compares the result with the stated limits. Guard band acceptance requires the full expanded uncertainty interval to fall within the limits; overlap is indeterminate. A failed specification remains a reportable result.

Scope and observations

Configure chemical form, hydration and counterions.

Anhydrous oxidized NAD zwitterion reference, net formal charge 0. The NAD⁺ name denotes oxidation state; more protonated, deprotonated, hydrated and sodium-salt forms have different formulas. Sample form is not confirmed. Reference form: Oxidized NAD, anhydrous net-zero zwitterionic reference. Reference formula source: [PubChem CID 5892](#).

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Sample reference: Catalog identity and nominal content supplied by the client.

Chemical form: Chemical form and sequence require a laboratory reference.

Chemical reference: [PubChem CID 5892](#)

Prepared by: alchemlabs