



CERTIFICATE OF ANALYSIS

Issued by an ISO/IEC 17025-accredited laboratory · raw data appended (page 2)

PASS

QC released for dispatch



Scan to verify

NAD+ — 1000mg

Nicotinamide Adenine Dinucleotide

1. PRODUCT IDENTIFICATION

Synonym	Nicotinamide Adenine Dinucleotide	Label claim	1000mg
Sequence / structure	—	Lot / Batch	ZX260512-292 / B31420
Mol. formula	C ₂₁ H ₂₇ N ₇ O ₁₄ P ₂	Manufacture date	19 May 2026
Mol. weight	663.43 g/mol	Date of analysis	25 May 2026
CAS number	53-84-9	Storage	-20 °C, dark, desiccated
Salt form	Free base / N/A		

2. ANALYTICAL TEST RESULTS

Test	Method	Specification	Result	Verdict
Appearance	Visual	Per monograph	White to pale-yellow hygroscopic powder	PASS
Identity	LC-MS + ¹ H-NMR	Matches 663.43 Da & ref	663.42 Da; conforms	PASS
Assay / Purity	RP-HPLC	≥ 98.0%	99.73%	PASS
Related substances	RP-HPLC	Total ≤ 2.0%	0.27%	PASS
Water content	Karl Fischer	≤ 5.0%	1.1%	PASS
Residual solvents	GC head-space (ICH Q3C)	Conforms	Conforms	PASS
Heavy metals	ICP-MS (ICH Q3D)	Conforms	Conforms	PASS

CONCLUSION

All tested parameters CONFORM to the acceptance specifications. The batch is of high chromatographic purity (≥ 98%) with an impurity profile, identity and residual/contaminant results meeting pharmaceutical-grade quality requirements. Material released. Supporting RP-HPLC chromatogram and ESI-MS spectrum are appended on page 2.

DHR.

Dr. Huang Rui

Analyst · 25 May 2026 · Zhongxi Research Institute

DFH.

Dr. Fang Hong (QC Manager)

Approved by · 25 May 2026 · Zhongxi Research Institute



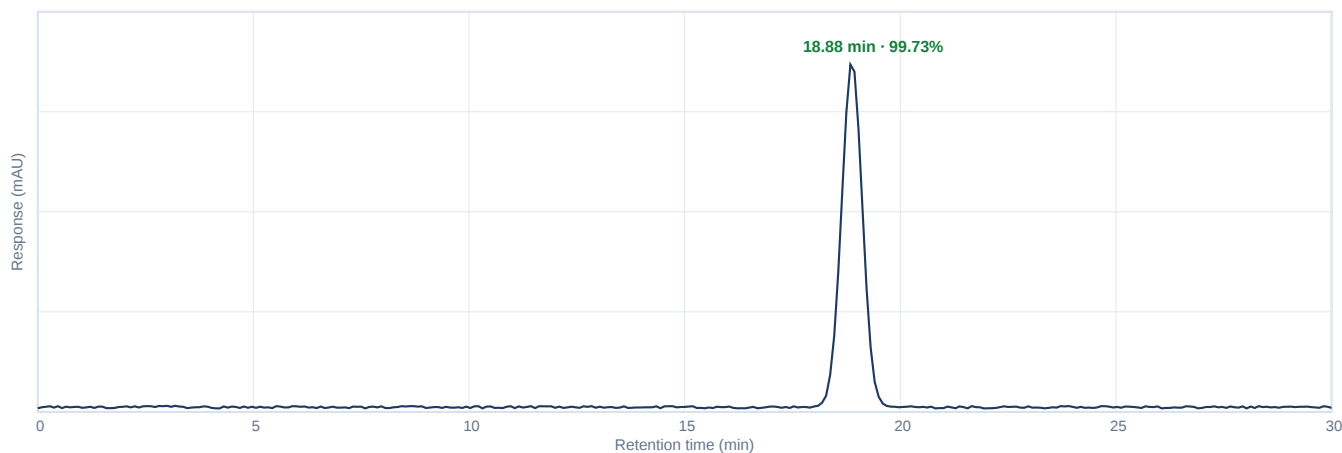
APPENDIX — ANALYTICAL RAW DATA

NAD+ 1000mg · Lot ZX260512-292 · Cert. ZXR-COA-2026-28620



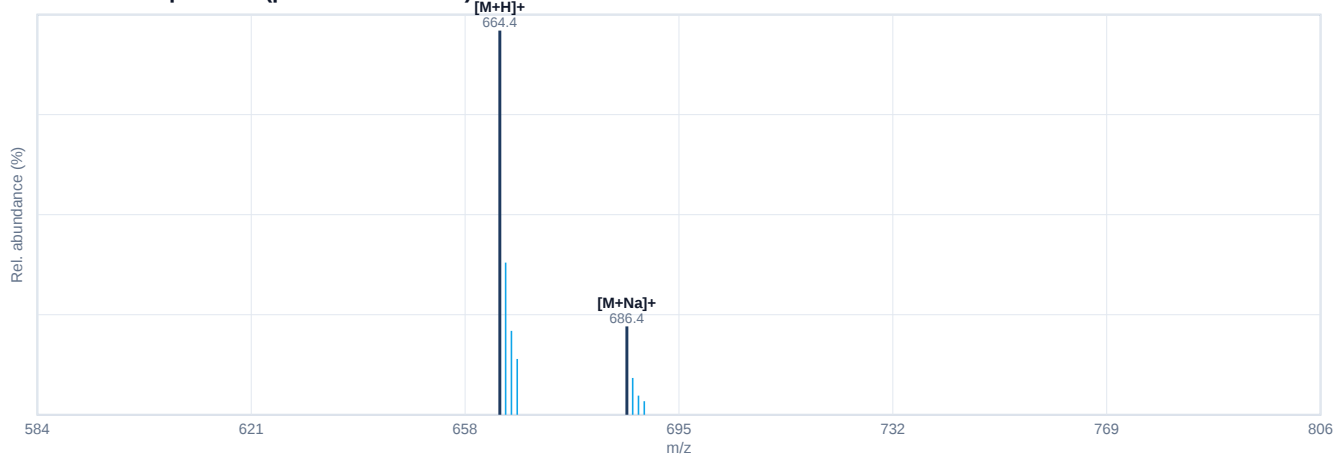
Scan to verify

Figure 1. RP-HPLC Chromatogram (UV 220 nm)



Peak #	RT (min)	Area (μV·s)	Area %	Assignment
1	18.88	999904	99.73	Main (target)
2	3.13	1149	0.11	Impurity / related substance
3	22.90	793	0.08	Impurity / related substance
4	24.29	806	0.08	Impurity / related substance

Figure 2. ESI-MS Spectrum (positive ion mode)



Interpretation

Identity confirmed by ESI-MS. Observed ions [M+H]⁺ 664.4, [M+Na]⁺ 686.4 deconvolute to a neutral monoisotopic-average mass of 663.42 Da (theoretical 663.43 Da; mass error -15 ppm), consistent with NAD⁺. No co-eluting species above 0.5% indicative of misidentification.

Methods — RP-HPLC: Agilent 1260 Infinity II; Zorbax SB-C18 4.6×250 mm, 5 μm; A: 0.1% TFA in water, B: 0.1% TFA in MeCN; 10–70% B over 30 min; 1.0 mL/min; 25 °C; 20 μL injection. MS: AB Sciex TripleTOF, ESI+, capillary 4.5 kV, deconvolution by Bio Tool Kit. KF: Metrohm 901. IC: Thermo Dionex ICS-6000. ICP-MS: Agilent 7900.