



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+ — 100mg

Nicotinamide Adenine Dinucleotide

1. PRODUCT IDENTIFICATION

Synonym	Nicotinamide Adenine Dinucleotide	Label claim	100mg
Sequence / structure	—	Lot / Batch	ZX260512-201 / B63072
Mol. formula	C ₂₁ H ₂₇ N ₇ O ₁₄ P ₂	Manufacture date	13 May 2026
Mol. weight	663.43 g/mol	Date of analysis	17 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	663.43 Da; conforms	PASS
Assay / Purity	RP-HPLC	≥ 98.0%	99.79%	PASS
Related substances	RP-HPLC	Total ≤ 2.0%	0.21%	PASS
Water content	Karl Fischer	≤ 5.0%	1.3%	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.

DXP.

Dr. Xu Ping

Analyst · 17 May 2026 · Zhongxi Research Institute

DLX.

Dr. Lin Xia (QC Manager)

Approved by · 17 May 2026 · Zhongxi Research Institute



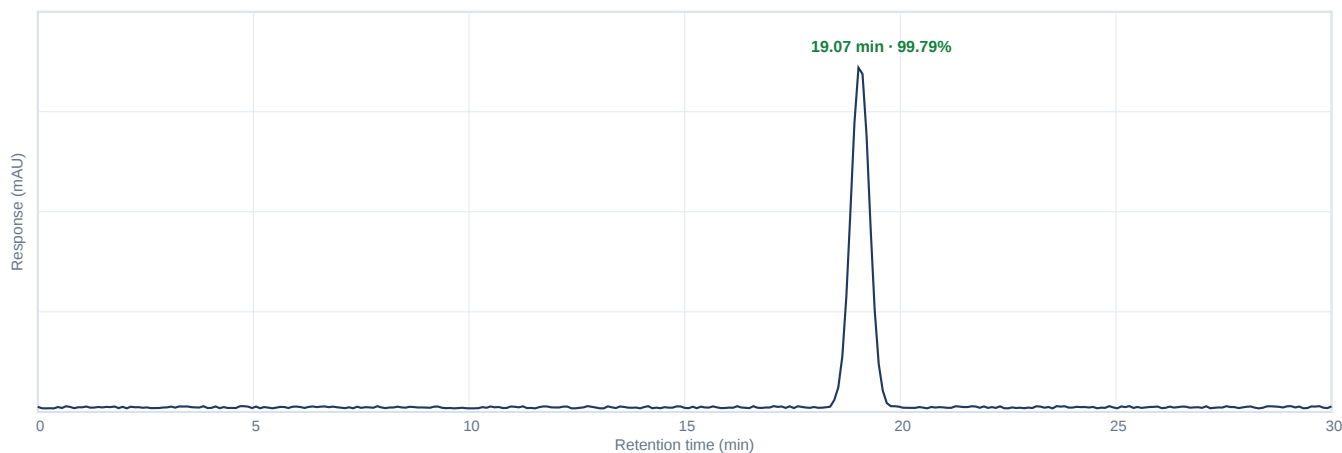
APPENDIX — ANALYTICAL RAW DATA

NAD+ 100mg · Lot ZX260512-201 · Cert. ZXR-COA-2026-43776



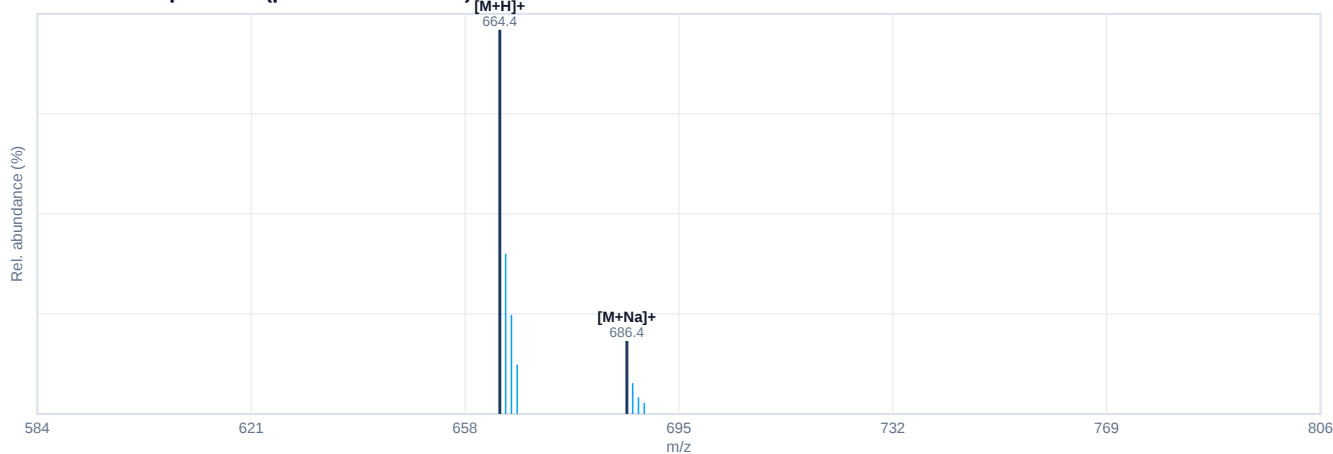
Scan to verify

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



Peak #	RT (min)	Area (μV·s)	Area %	Assignment
1	19.07	955060	99.79	Main (target)
2	6.44	938	0.10	Impurity / related substance
3	4.42	700	0.07	Impurity / related substance
4	6.15	322	0.03	Impurity / related substance
5	22.79	95	0.01	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 663.43 Da (theoretical 663.43 Da; mass error 0 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.