

Certificate of Analysis

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Sample Identification

Sample Name NAD+
Batch Number XD-NJ500-PO05
Date Published 2026-08-28 08:26

Results for LYO-0653

Peptides	Result	Unit	Uncertainty	Acceptable Range
NAD+ Assay Polar Compound Screening 10mM ammonium formate buffer	556	mg	[± 3]	
NAD+ Purity Peptide Screening 0.1% TFA	99.3	%	[± 0.5]	
NAD+ Identification by Spectrum (FTIR) Peptide Screening 0.1% TFA	994		[± 5]	
NAD+ Identification by RT Peptide Screening 0.1% TFA	0.980		[± 0.005]	
Microbiology	Result	Unit	Uncertainty	Acceptable Range
Bacterial Endotoxin Chromogenic USP<85>/ Eur. Ph. 2.6.14. Bacterial Endotoxin Chromogenic Test	< 0.001	EU/mg		

	Method Specification	
Determination of identity, content and purity of NAD⁺		
<i>Document number</i> NAD_008_2026_P	<i>Superseded document</i> -	<i>Number of pages</i> 4

1. Content Assessment

1.1. Instrumentation

Module	Name	Serial Number
System Controller	Shimadzu CBM-40 Lite	L221226351398
Degassing Unit	Shimadzu DGU-403	NA
Pump	Shimadzu LC-40B XR	L22146350580
Autosampler	Shimadzu SIL-40C XR	L22216351622
Colum Thermostat	Shimadzu CTO-40S	L22236351602
PDA Detector	Shimadzu SPD-M40	L22276352808
SQ MS Detector	Shimadzu LCMS-2050	O12476200760

1.2. Chromatographic conditions

Chromatographic conditions	
Eluent A	10 mM Ammonium Formate in ACN (HPLC, Gradient Grade)
Eluent B	10 mM Ammonium Formate in Water (HPLC, Gradient Grade)
Flow rate	0.6 mL/min
Program	Gradient elution
Injection volume	2 µL
Colum Temperature	40°C
Column	Merck SeQuant ZIC-HILIC 150x2.1mm 3.5µm
Detection wavelength	280nm

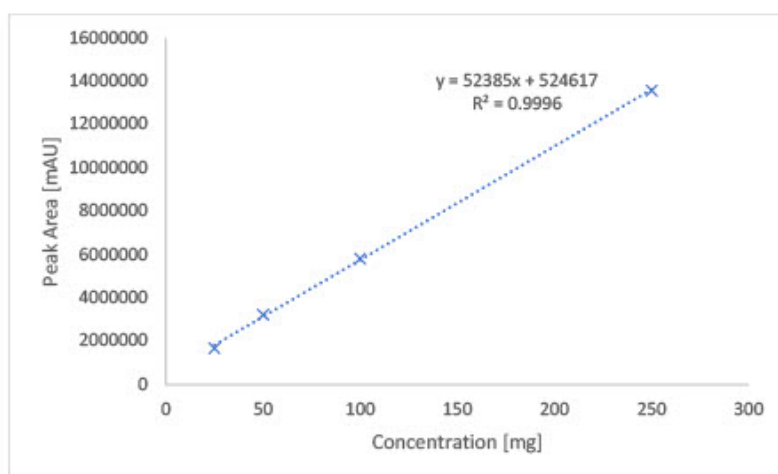
Gradient Program		
Time [min]	A [%]	B [%]
2	100	0
18	5	95
20	5	95
22	100	0
30	end	

1.3. Sample preparation

Whole amount of container was dissolved in 2mL of water (LCMS Grade). 100 µL of sample was transferred to HPLC vial and diluted by 900 µL water (LCMS Grade) and submitted for analysis.

1.4. Calibration curve

Calibration curve detail	
Quantitative method	External Standard
Calibration Type	Linear
Number of calibration points	4
Force through Zero	Disabled
Weighting Method	None



2. Purity assessment

2.1 Instrumentation

Module	Name	Serial Number
System Controller	Shimadzu CBM-40 Lite	L221226351398
Degassing Unit	Shimadzu DGU-403	NA
Pump	Shimadzu LC-40B XR	L22146350580
Autosampler	Shimadzu SIL-40C XR	L22216351622
Colum Thermostat	Shimadzu CTO-40S	L22236351602
PDA Detector	Shimadzu SPD-M40	L22276352808
SQ MS Detector	Shimadzu LCMS-2050	O12476200760

2.2 Chromatographic conditions

Chromatographic conditions	
Eluent A	10 mM Ammonium Formate in ACN (HPLC, Gradient Grade)
Eluent B	10 mM Ammonium Formate in Water (HPLC, Gradient Grade)
Flow rate	0.6 mL/min
Program	Gradient elution
Injection volume	2 µL
Colum Temperature	40°C
Column	Merck SeQuant ZIC-HILIC 150x2.1mm 3.5µm
Detection wavelength	225nm

Gradient Program		
Time [min]	A [%]	B [%]
2	100	0
18	5	95
20	5	95
22	100	0
30	end	

2.3 Purity assesment

Purity of compound assesed by area normalization method, comparing area of each peak to sum of area of all peaks detected at wavelenght of 225 nm.

Analysis Report



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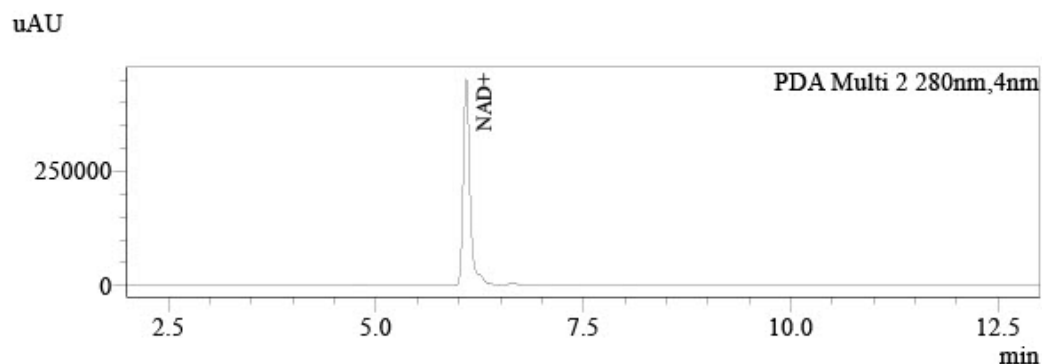
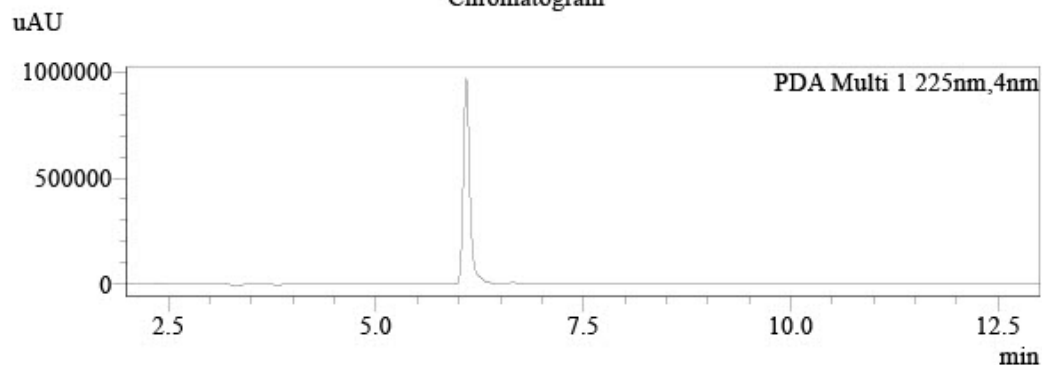
Analytical services

Analysis of quantity and purity of active ingredient by UHPLC with UV detection

Sample Information

Injection Volume : 0.5
Data File : LYO-0653_003.lcd
Method File : Peptides HILIC_B.lcm
Date Acquired : 8/26/2026 12:21:36 PM

Chromatogram



Peak Table

PDA Ch1 225nm

Name	Ret. Time	Area	Conc.	Unit	Area%
	6.088	5403568	0.000		99.267
	6.648	37342	0.000		0.686
	7.162	2543	0.000		0.047
		5443454			100.000

Peak Table

PDA Ch2 280nm

Name	Ret. Time	Area	Conc.	Unit
	0.698	17011	0.000	
NAD+	6.088	2605697	556.170	mg/L
	6.647	39383	0.000	
		2662091		

Endotoxin Determination Report

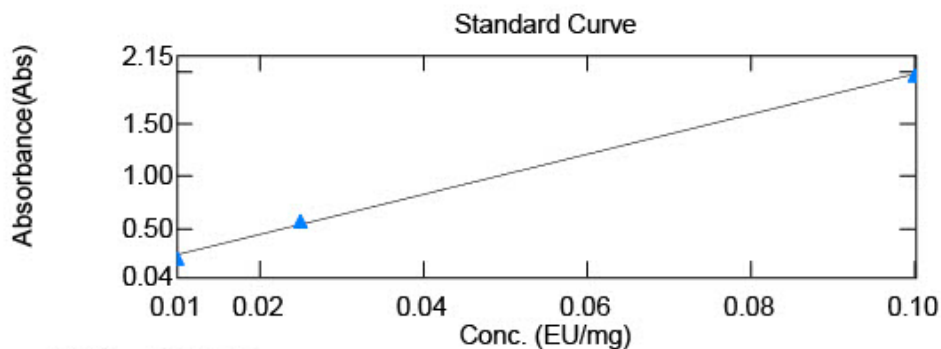


File Information

Filename: C:\UVVis-Data\Data\File_260820_135540.vqud
Date/Time: 08/20/2026 03:18:46 PM

Instrument Information

Instrument Type: UV-1900 Series
Model (S/N): UV-1900i (A12536253123)



$$y = 19.2242x + 0.0569806$$
$$r^2 = 0.99866$$

	Sample Name	Conc	Raw_WL545.0	Dilution Rate
1	LIQ-0055	0.003	0.1086	1.00
2	LIQ-0056	0.734	1.4685	10.00
3	LYO-0620	5.092	1.0358	100.00
4	LYO-0621	0.032	0.0880	20.00
5	LYO-0622	0.906	0.9279	20.00
6	LYO-0623	0.057	0.1122	20.00
7	LYO0624	2.521	1.2687	40.00
8	LYO-0625	0.073	0.1270	20.00
9	LYO-0692	0.043	0.0981	20.00
10	LYO-0627	0.394	0.4356	20.00
11	LYO-0628	0.051	0.1056	20.00
12	LIQ-0065	0.056	0.1113	20.00
13	LYO-0629	2.182	1.1055	40.00
14	LYO-0630	0.053	0.1084	20.00
15	LYO-0631	1.632	0.8411	40.00
16	LYO-0645	1.560	0.8067	40.00
17	LYO-0646	0.058	0.1130	20.00
18	LYO-0647	0.155	0.2056	20.00
19	LYO0648	2.452	1.2354	40.00
20	LYO-0649	1.360	0.7105	40.00

	Sample Name	Conc	Raw_WL545.0	Dilution Rate
21	LYO-0650	0.043	0.0986	20.00
22	LYO-0651	2.908	1.4546	40.00
23	LYO-0652	0.129	0.1805	20.00
24	LYO-0653	0.156	0.0870	100.00

Responsibles



Mr. Ján Galbavý
CEO

Analysis results relate only to the samples tested.

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