

Certificate of Analysis

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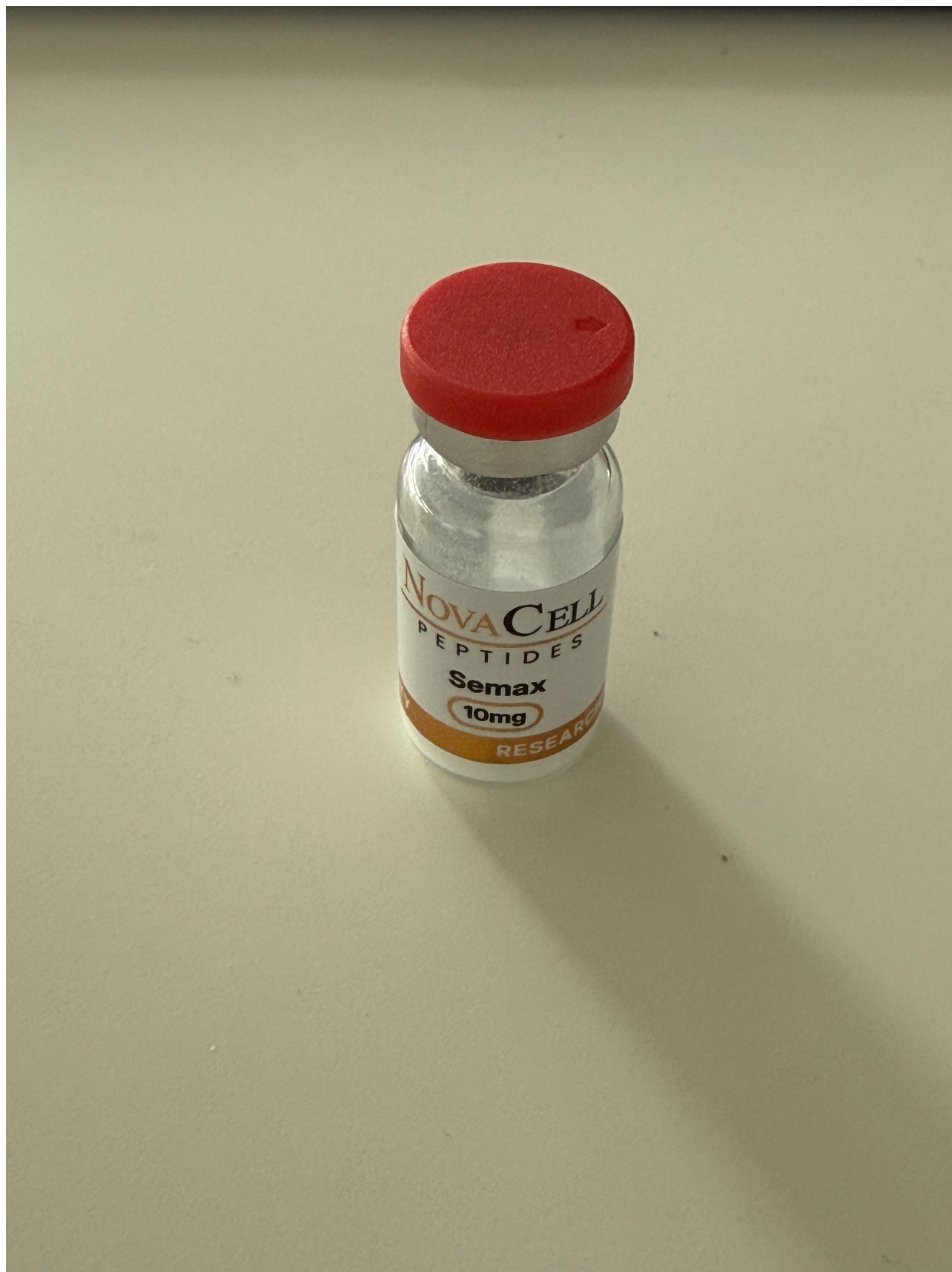
[Verify Results Online](#)

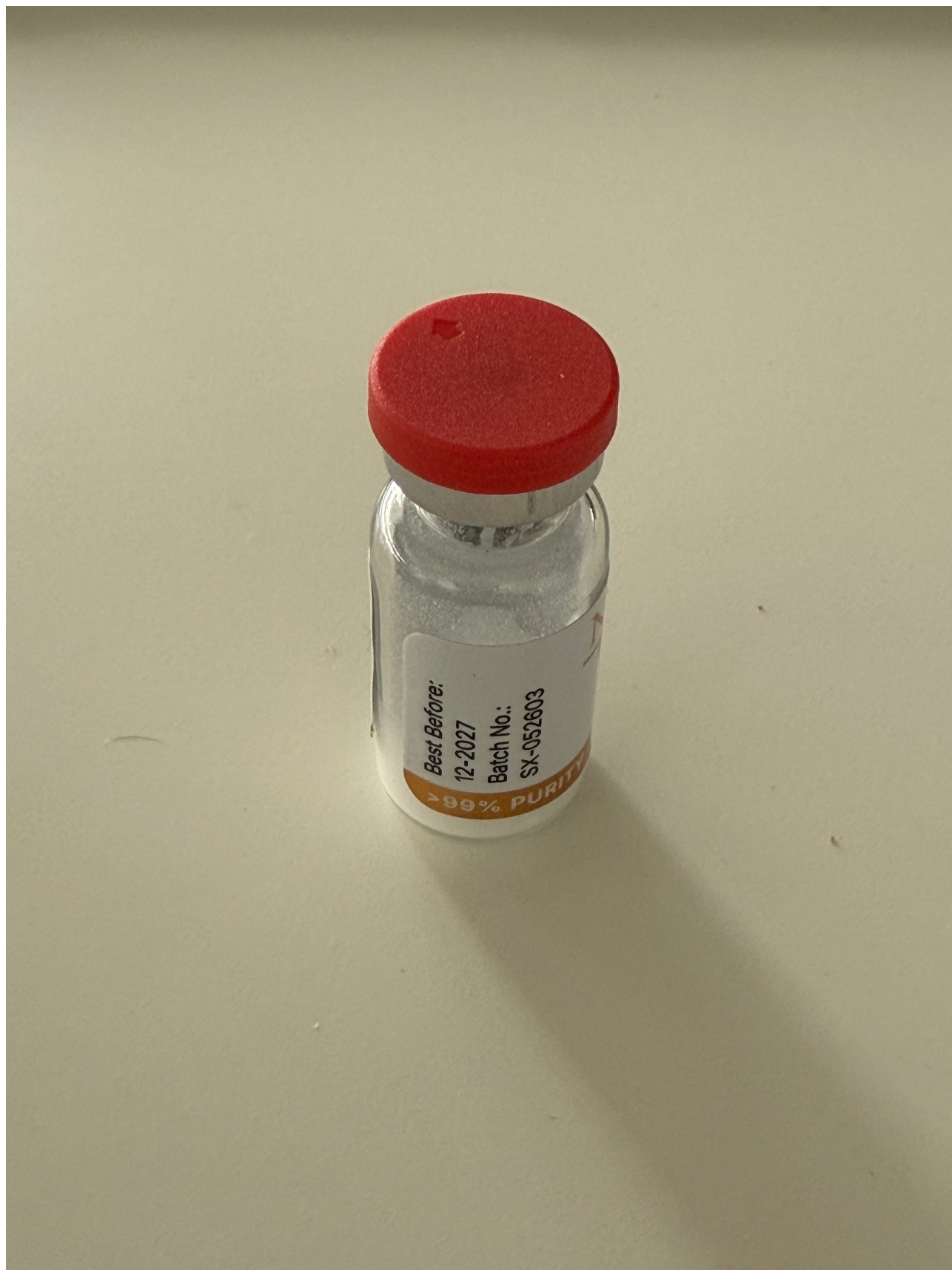
Sample Identification

Sample Name Semax 10 mg
Batch Number SX-052603
Date Published 2026-07-23 12:35

Results for LYO-0375

Peptides	Result	Unit	Uncertainty	Acceptable Range
Semax Assay Peptide Screening 0.1% TFA	9.56	mg	[± 0.05]	
Semax Purity Peptide Screening 0.1% TFA	99.1	%	[± 0.5]	
Semax Identification by Spectrum (FTIR) Peptide Screening 0.1% TFA	998		[± 5]	
Semax Identification by RT Peptide Screening 0.1% TFA	0.994		[± 0.005]	
Microbiology	Result	Unit	Uncertainty	Acceptable Range
Bacterial Endotoxin Chromgenic USP<85>/ Eur. Ph. 2.6.14. Bacterial Endotoxin Chromgenic Test	0.334	EU/mg	[± 0.007]	0 - 0.5
Mass Spectrometry	Result	Unit	Uncertainty	Acceptable Range
Molecular Ion Mass Identification (MS Deconvolution) Mass Spectrometry Identity	813	Da	[± 1]	





 LIQUILABS Analytical services	Method Specification	
Determination of identity, content and purity of Semax		
<i>Document number</i> SMX_006_2026	<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Superseded document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	0.1% TFA in Water (HPLC, Gradient Grade)
Eluent B	0.1% TFA in Acetonitrile (HPLC, Gradient Grade)
Flow rate	0.4 mL/min
Program	Gradient elution
Injection volume	2 µL
Colum Temperature	60°C
Column	Phenomenex Biozen Peptide Polar C18, 150x2.1mm 3µm
Detection wavelength	225nm

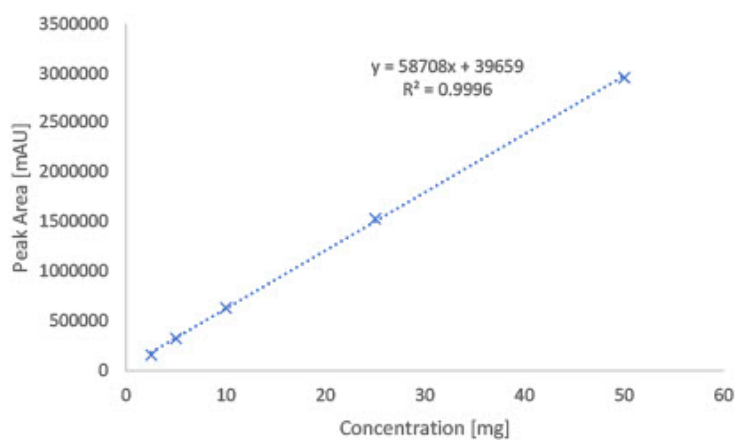
Gradient Program		
Time [min]	A [%]	B [%]
3	100	0
18	45	55
20	1	99
21	1	99
21.01	100	0
26	end	

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	5
Force through Zero	Enabled
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	0.1% TFA in Water (HPLC, Gradient Grade)
Eluent B	0.1% TFA in Acetonitrile (HPLC, Gradient Grade)
Flow rate	0.4 mL/min
Program	Gradient elution
Injection volume	2 µL
Colum Temperature	60°C
Column	Phenomenex Biozen Peptide Polar C18, 150x2.1mm 3µm
Detection wavelength	225nm

Gradient Program		
Time [min]	A [%]	B [%]
3	100	0
18	45	55
20	1	99
21	1	99
21.01	100	0
26	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 225nm.

3. Identity Assessment

3.1 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

3.2 Chromatographic conditions

Chromatographic conditions	
Eluent A	0.1% TFA in Water (HPLC, Gradient Grade)
Eluent B	0.1% TFA in Acetonitrile (HPLC, Gradient Grade)
Flow rate	0.4 mL/min
Program	Gradient elution
Injection volume	2 µL
Colum Temperature	60°C
Column	Phenomenex Biozen Peptide Polar C18, 150x2.1mm 3µm
Mass spectrometry	Scan: positive 280-2000 Da

Gradient Program		
Time [min]	A [%]	B [%]
3	100	0
18	45	55
20	1	99
21	1	99
21.01	100	0
26	end	

3.3 Molecular Ion Mass evaluation

Molecular ion mass was determined by deconvolution of multiply charged ESI-MS spectra to calculate the average neutral (zero-charge) molecular mass by equation:

$$M(\text{neutral}) = (z_i((mz_i) - H)) - ME$$

Where:

mz_i - Measured mass of charged particle

z_i - charge

H - proton mass (1.0076 Da)

ME - mass error

Analysis Report



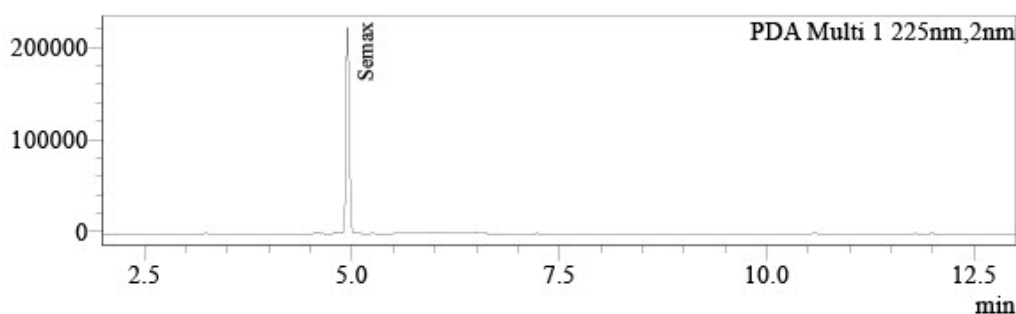
Analysis of quantity and purity of active ingredient by UHPLC with UV detection

Sample Information

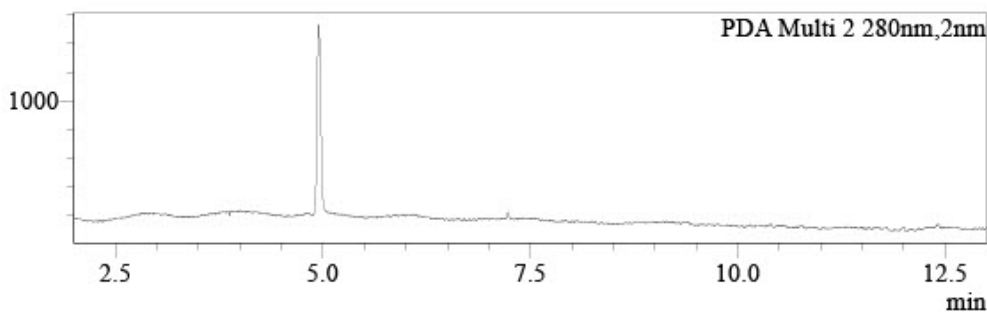
Injection Volume : 2
Data File : LYO-0375_014.lcd
Method File : Peptide screening_V7_Group D.lcm
Date Acquired : 7/20/2026 6:49:07 PM

Chromatogram

uAU



uAU



Peak Table

PDA Ch1 225nm

Name	Ret. Time	Area	Conc.	Unit	Area%
	3.238	392	0.000		0.063
	4.570	892	0.000		0.147
	4.813	2007	0.000		0.331
Semax	4.946	600833	9.559	mg	99.121
	5.248	321	0.000		0.053
	5.968	881	0.000		0.145
	6.492	373	0.000		0.061
	7.231	463	0.000		0.076
		606162			100.000

Peak Table

PDA Ch2 280nm

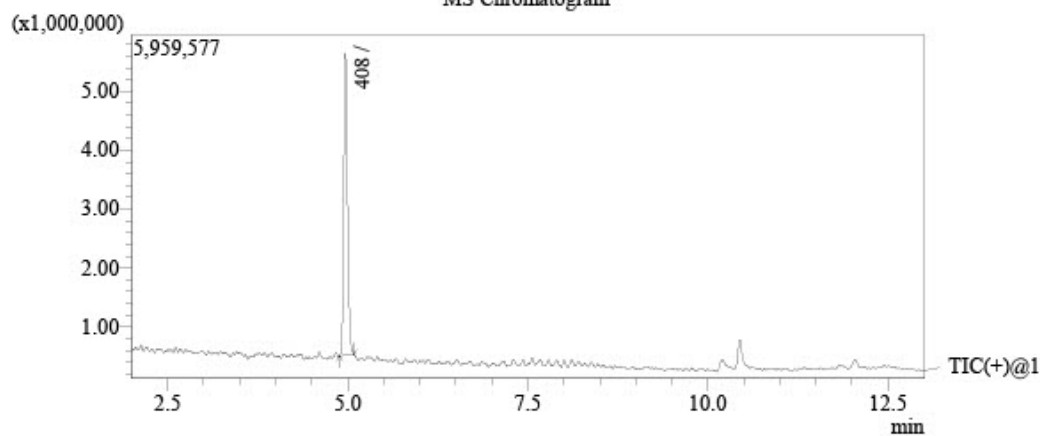
Name	Ret. Time	Area	Conc.	Unit
	4.949	3964	0.000	
		3964		

Analysis Report



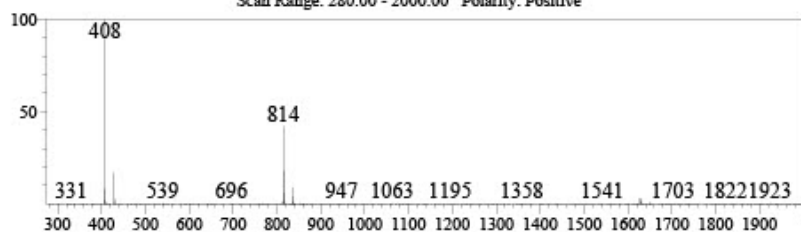
Analysis of identity of active ingredient by UHPLC with mass spectrometric detection

MS Chromatogram

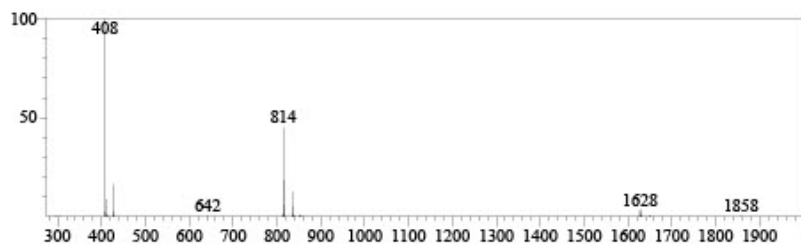


Library Search

Detected compound
Ret. Time: 4.888 Base Peak: 408
Scan Range: 280.00 - 2000.00 Polarity: Positive



Library: Peptide screening lib
Formula: C₃₇H₆₁N₉O₁₀S CAS: 80714-61-0 Mol.Weight: 813 Ret.Index: 0
Compound Name: Semax



Endotoxin Determination Report

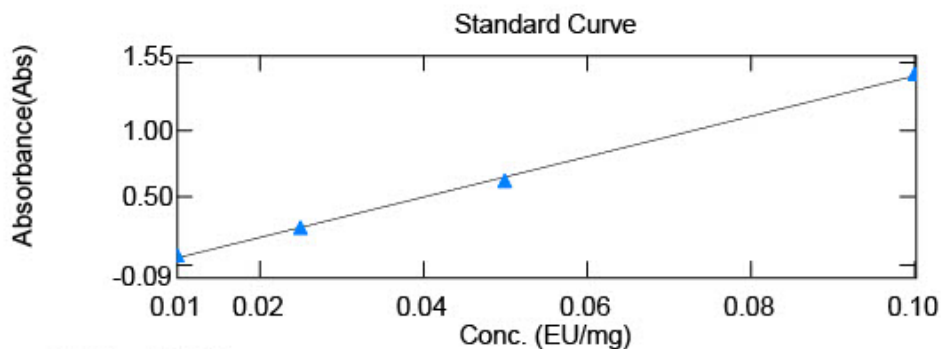


File Information

Filename: C:\UVVis-Data\Data\File_260720_124259.vqud
Date/Time: 07/20/2026 12:42:33 PM

Instrument Information

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



$$y = 15.0474x - 0.104044$$
$$r^2 = 0.99891$$

	Sample Name	Conc	Result	Dilution Rate
1	LYO-0363	0.267	0.097	20.00
2	LYO-0364	3.062	2.199	20.00
3	LYO-0365	2.603	1.855	20.00
4	LYO-0366	0.702	0.424	20.00
5	LYO-0367	3.216	2.315	20.00
6	LYO-0368	0.487	0.263	20.00
7	LYO-0369	0.422	0.213	20.00
8	LYO-0371	0.226	0.066	20.00
9	LYO-0372	0.243	0.079	20.00
10	LYO-0373	0.422	0.023	50.00
11	LYO-0374	0.303	0.124	20.00
12	LYO-0375	3.200	2.304	20.00
13	LYO-0376	0.664	0.395	20.00
14	LIQ-0037	0.101	0.048	10.00
15	LYO-0378	1.528	1.045	20.00

Responsibles



Mr. Ján Galbavý
CEO

Analysis results relate only to the samples tested.

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