

# Certificate of Analysis

**Peak Peptide**  
Peak Peptide  
Austria  
[office@peakpeptide.com](mailto:office@peakpeptide.com)

**Liquilabs s.r.o.**  
Inovační 122  
252 41 Zlatníky-Hodkovice  
Czechia  
[www.liquilabs.cz](http://www.liquilabs.cz)




[Verify Results Online](#)

## Sample Identification

**Sample Name** Retatrutide 5 mg  
**Batch Number** PP-RTX-04-04  
**Date Published** 2026-04-28 09:27

## Results for LYO-0113

Peptides	Result	Unit	Uncertainty	Acceptable Range
Retatrutide Assay Peptide Screening 0.1% TFA	5.17	mg	[± 0.03]	
Retatrutide Purity Peptide Screening 0.1% TFA	> 99.8	%		
Retatrutide Identification by Spectrum Peptide Screening 0.1% TFA	991		[± 5]	
Retatrutide Identification by RT Peptide Screening 0.1% TFA	0.991		[± 0.005]	
Microbiology	Result	Unit	Uncertainty	Acceptable Range
Bacterial Endotoxin Chromgenic USP<85>/ Eur. Ph. 2.6.14. Bacterial Endotoxin Chromgenic Test	< 0.001	EU/mg		0 - 0.5
Elemental Impurities	Result	Unit	Uncertainty	Acceptable Range
Arsenic Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 1.5
Cadmium Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 0.5
Quicksilver Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 1.5
Lead Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 1.5
Nickel Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 25
Vanadium Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 25
Cobalt Elemental Impurities screening USP (232) / Ph. Eur. 5.20 / 2.4.20	< 0.001	ppm		0 - 25

	<b>Method Specification</b>	
<b>Determination of identity, content and purity of Retatrutide</b>		
<i>Document number</i> RETA_003_2026	<i>Superseded document</i> -	<i>Number of pages</i> 3

## 1. Content Assesment

### 1.1. Instrumentation

Module	Name	Serial Number
System Controller	Shimadzu CBM-20A	L20235355693
Degassing Unit	Shimadzu DGU-14A	NA
Pump A	Shimadzu LC-20AD	L20104350216
Pump B	Shimadzu LC-20AD	L20104451348
Autosampler	Shimadzu SIL-10ADvp	C21054109114
Colum Thermostat	Shimadzu CTO-10ACvp	C21033770144
Detector	Shimadzu SPD-10ADvp	C20994233588

### 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	0.5 µL
Colum Temperature	60°C
Column	Phenomenex Biozen Peptide Polar C18, 150x2.1mm 3µm
Detection wavelength	280nm

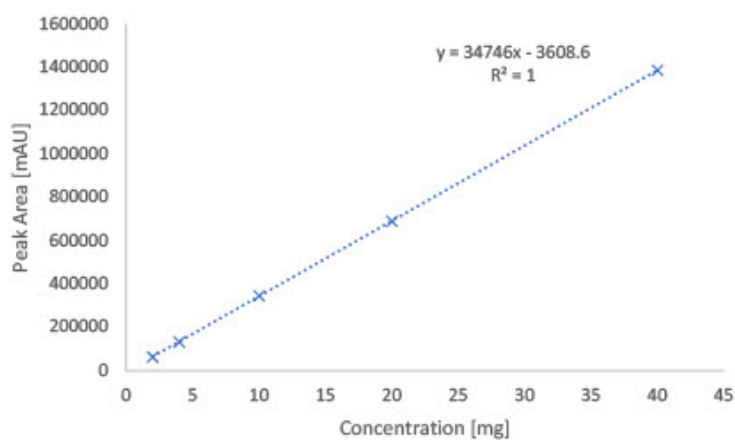
Gradient Program		
Time [min]	A [%]	B [%]
1	95	5
20.50	5	95
21.00	5	95
21.05	95	5
26	end	

### 1.3. Sample preparation

Whole amount of container was dissolved in 2mL of water (HPLC, Gradient Grade). Aliquote part of 1 mL was dispensed into HPLC vial for analysis.

### 1.4. Calibration curve

Calibration curve detail	
Quantitative method	External Standard
Calibration Type	Linear
Number of calibration points	5
Force through Zero	Disabled
Weighting Method	None



## 2. Purity assessment

### 2.1 Instrumentation

Module	Name	Serial Number
System Controller	Shimadzu CBM-20A	L20235355693
Degassing Unit	Shimadzu DGU-14A	NA
Pump A	Shimadzu LC-20AD	L20104350216
Pump B	Shimadzu LC-20AD	L20104451348
Autosampler	Shimadzu SIL-10ADvp	C21054109114
Colum Thermostat	Shimadzu CTO-10ACvp	C21033770144
Detector	Shimadzu SPD-10ADvp	C20994233588

### 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	0.5 µL
Colum Temperature	60°C
Column	Phenomenex Biozen Peptide Polar C18, 150x2.1mm 3µm
Detection wavelength	214nm

Gradient Program		
Time [min]	A [%]	B [%]
1	95	5
20.50	5	95
21.00	5	95
21.05	95	5
26	end	

### 1.5. Sample preparation

Whole amount of container was dissolved in 2mL of water (HPLC, Gradient Grade). Aliquote part of 1 mL was dispensed into HPLC vial for analysis.

### 1.6. 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 214 nm.

# Analysis Report

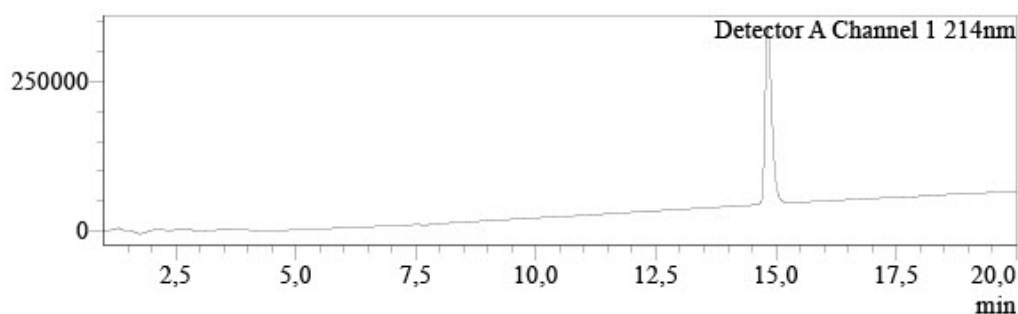


## Sample Information

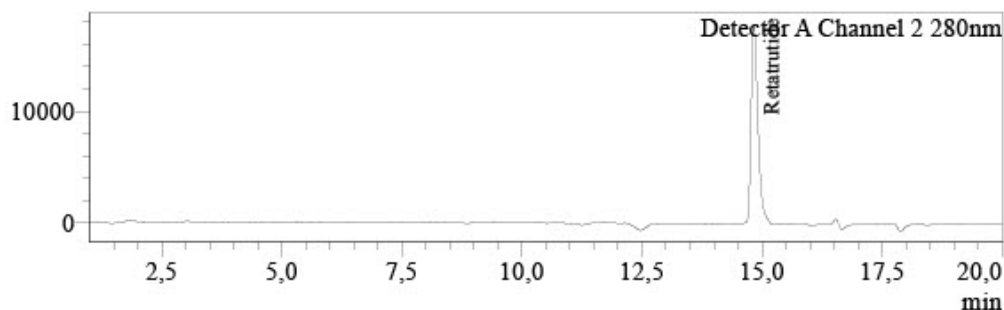
Injection Volume : 0,5  
Data File : LYO-0113\_\_005.lcd  
Method File : Peptide screening\_202602\_GLPs\_A.lcm  
Date Acquired : 22.04.2026 14:51:37

## Chromatogram

uAU



uAU



## Peak Table


Detector A Channel 1 214nm

Peak#	Name	Ret. Time	Conc.	Unit	Area%
1		14,827	0,000		100,000
Total					100,000

## Peak Table

Detector A Channel 2 280nm

Peak#	Name	Ret. Time	Conc.	Unit
1	Retatrutide	14,828	5,168	mg/L
Total				

	<b>Method Specification</b>	
<b>Determination of bacterial endotoxin content of lyophilized samples</b>		
<i>Document number</i> ENDOTOX_0422_2026	<i>Superseded document</i> -	<i>Number of pages</i> 2

## 1. Chromgenic LAL Assay Determination of Bacterial Endotoxin content of sample

### 1.1. Instrumentation

- Pipette set 1-1000 µL
- Thermostatically controlled water bath
- UV VIS spectrometer ( Shimadzu UV-1601)
- GenScript ToxinSensor Chromgenic LAL Endotoxin Assay kit

### 1.2. Chemicals

- LAL Reagent water (endotoxin free)
- Limulus Amoebocyte Lysate
- LAL Substrate
- Color Stabilizer #1
- Color Stabilizer #2
- Color Stabilizer #3
- 35% HCl (p.a.)

### 1.3. Sample preparation

1. Sample container was weighed prior to dissolution and measured weight was marked.
2. Sample was completely dissolved in its container by 2 mL of LAL Reagent water.
3. 100 µL of the sample was aliquoted for analysis.
4. After analysis container was emptied and dried.
5. Dry mass of container was measured and exact weight of dissolved content was determined as:

$$m_{dc} = m_{sample} - m_{container}$$

### 1.4. Toxin sensor Chromgenic LAL Endotoxin Assay kit preparation

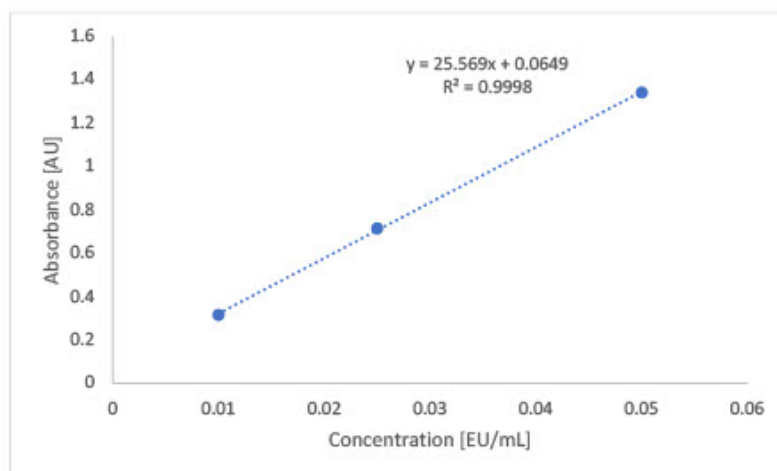
Procedures regarding preparation of reaction solutions possible to find in:

[https://www.genscript.com/site2/document/5292\\_20080806231827.PDF](https://www.genscript.com/site2/document/5292_20080806231827.PDF)

### 1.5. Measurement procedure

	Standards	Samples	Blank
Standards (mL)	0.1	-	-
Samples (mL)	-	0.1	-
LAL Reagent Water (mL)	-	-	0.1
LAL Solution (mL)	0.1	0.1	0.1
Mix well and incubate at 37°C for 27 min			
Substrate solution (mL)	0.1	0.1	0.1
Mix well and incubate at 37°C for 6 min			
Color Stabilizer #1 solution	0.5	0.5	0.5
Color Stabilizer #2 solution	0.5	0.5	0.5
Color Stabilizer #3 solution	0.5	0.5	0.5
Mix well and read the absorbance at 545nm			

### 1.6. Calibration curve



### 1.7. Calculation of endotoxin content

Endotoxin content of the sample was calculated from the calibration curve as:

$$Endotox[EU/mg] = \frac{\left(\frac{ABS_{sample}}{S_{calib}}\right) * 20}{m_{sample}}$$

$ABS_{sample}$  = Measured absorbance of sample

$S_{calib}$  = Slope of calibration curve

$m_{sample}$  = real measured mass of sample

20 = dilution factor of measured sample

## Responsibles



**Mr. Ján Galbavý**  
*CEO*

Analysis results relate only to the samples tested.

This document shall not be reproduced except in full, without the written approval of Liquilabs s.r.o.