

ANALYTICAL CERTIFICATE

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Sample name	Retatrutide
Batch No.	2026302
Sample No.	01
Sequence	Y-Aib-QGTFTSDYSI- α MeLeu-LDK-Lys(19-carboxy-nonadecanoyl- γ Glu-AEEA)-AQ-Aib-AFIEYLLEGGPSSGAPPPS-NH ₂
Manufacturing date	NA
Submitter of analytical request	Particle Peptides s.r.o., Slovakia

1. Peptide content by HPLC/CLND:

1.1 HPLC Instrument:

Pump: Agilent 1200 Series, Quat Pump G1311A
Sampler: Agilent 1260 Series, Hip ALS G1367E
Degasser: Agilent 1200 Series, Degasser G1379B
Detectors: Agilent 1200 Series, VWD G1314B
Nitrogen detector Antek 8060

1.2 HPLC conditions:

Eluents: A – MilliQ water
B – Isopropanol
D – 1% TFA in MilliQ water
Flow rate: 1 mL/min
Gradient:

Time	A (%)	B (%)	D (%)
0	90	0	10
1	90	0	10
9	10	80	10
10	10	80	10
11	90	0	10
15	90	0	10

Column: ARION 5 μ C4-BIO 300 A, 4.6 x 100 mm
Serial No 221258

1.3 Sample preparation:

The whole amount of Retatrutide (10 mg) was dissolved in 1 mL of DMSO.
Injection: 2.0 μ L

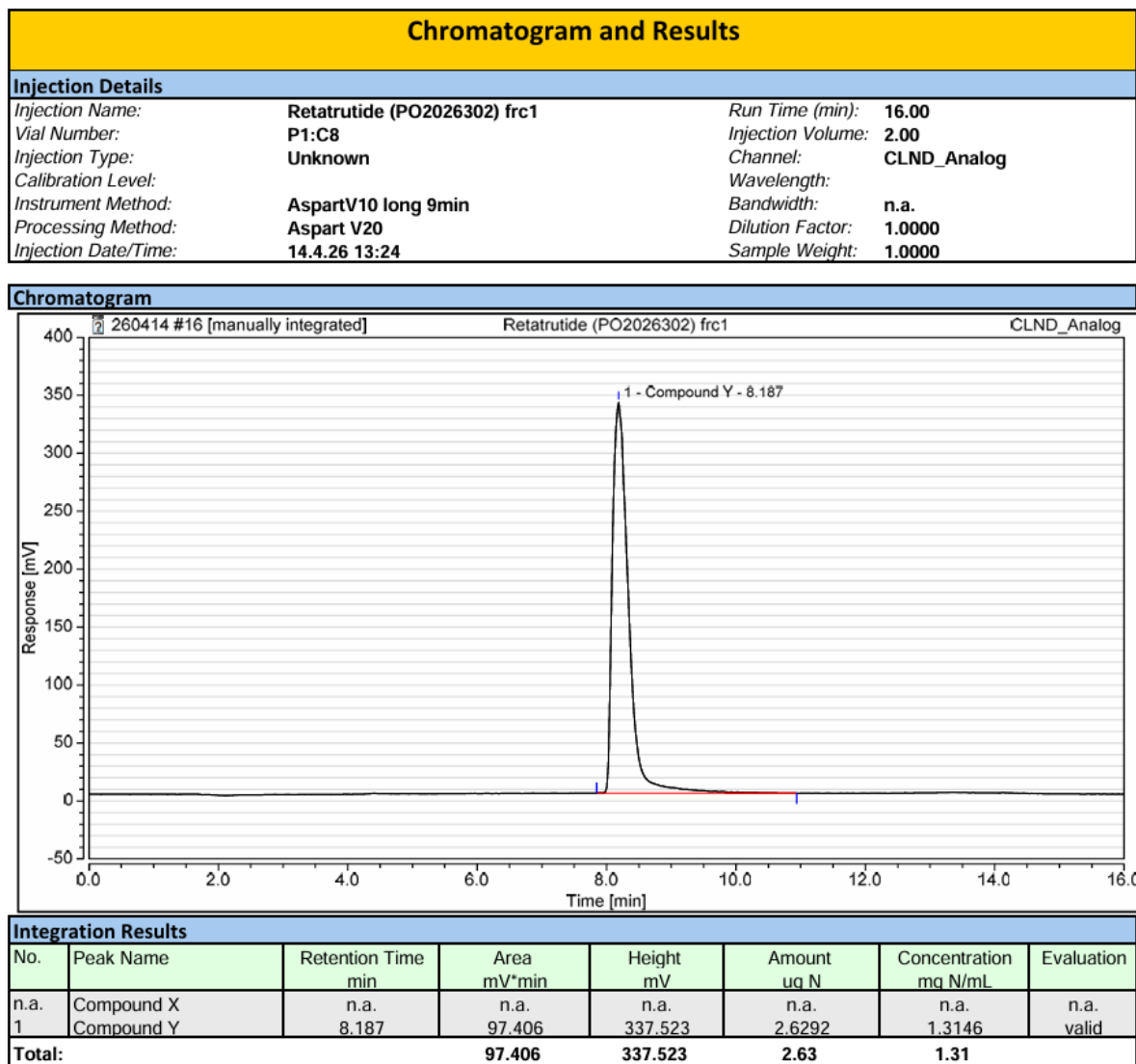
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1.4 Chromatograms and calibration curve:

Instrument: CLND-2 Sequence: 260414

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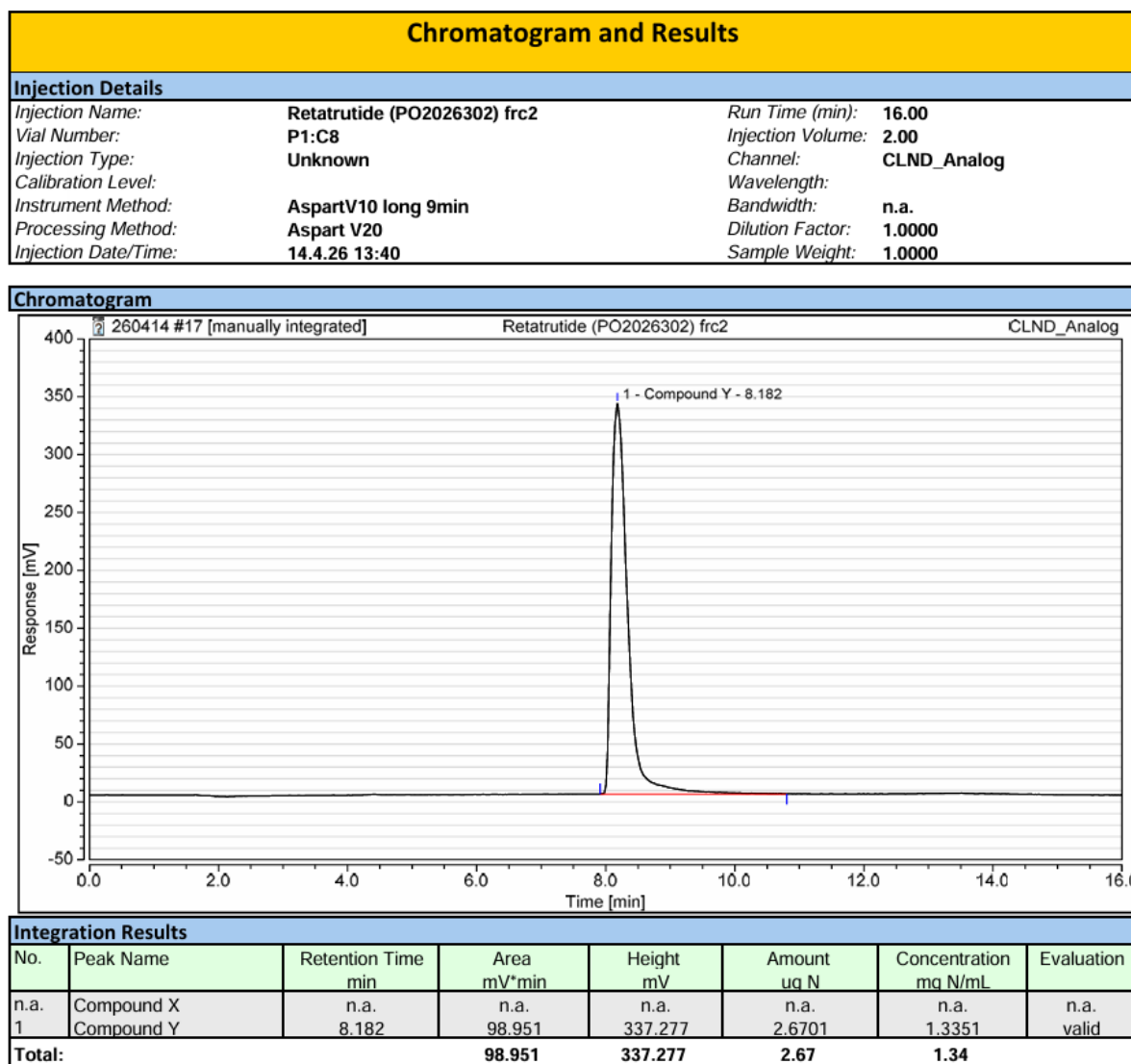


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Instrument: CLND-2 Sequence: 260414

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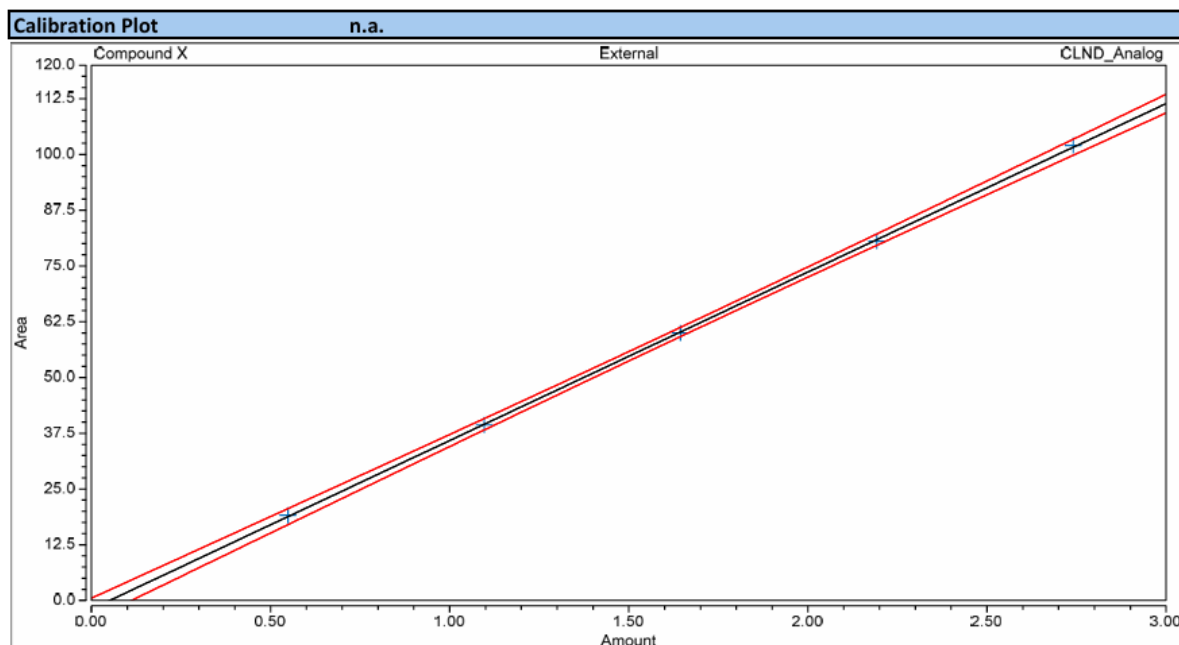
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Instrument:CLND-2 Sequence:260414

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Calibration			
Calibration Details		n.a.	
Calibration Type	Lin, WithOffset	Offset (C0)	n.a.
Evaluation Type	Area	Slope (C1)	n.a.
Number of Calibration Points	n.a.	Curve (C2)	n.a.
Number of disabled Calibration Points	n.a.	R-Square	n.a.



Calibration Results		n.a.					
No.	Injection Name	Calibration Level	X Value	Y Value	Y Value	Area mV*min	Height mV
			CLND_Analog Compound X	CLND_Analog Compound X	CLND_Analog Compound X	CLND_Analog Compound X	CLND_Analog Compound X
2	Aspart5	1	2.7408	102.0338	102.0338	102.034	414.790
3	Aspart4	1	2.1926	80.5554	80.5554	80.555	321.783
4	Aspart3	1	1.6445	59.9997	59.9997	60.000	238.188
5	Aspart2	1	1.0963	39.3371	39.3371	39.337	152.372
6	Aspart1	1	0.5482	19.1164	19.1164	19.116	72.983

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2. Purity assessment by UPLC:

2.1 HPLC Instrument:

LC-System Waters Acquity UPLC
Detectors: UV or DAD at 214 nm

2.2 HPLC conditions:

Eluents: A – MilliQ water + 0.05% TFA
 B – acetonitrile + 0.05% TFA
Flow rate: 0.40 mL/min
Gradient: from 5% B to 95% B in 16 min, according to chromatogram results
Column: Waters Acquity BEH, C-18, 1.7µm, 2.1mm x 150mm

2.3 Sample preparation:

An aliquote of Retatrutide (1,8 mg) was dissolved in 1 mL of water.
Injection: 1.6 µL

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2.4 Chromatogram of Retatrutide (PO2026302)

Sample information

UPLC2

Channel Description ACQUITY TUV ChA 214nm

Vial : 1:A,3 Vol. : 1.60 ul

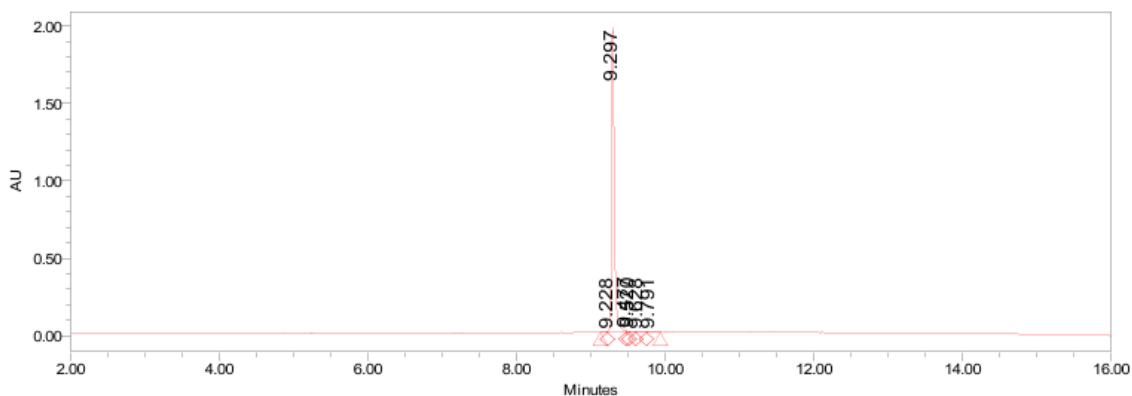
Sample: Retatrutide (PO-2026302)

Date Acquired 4/14/2026 12:24:06 PM CEST

Date Processed 4/14/2026 1:01:12 PM CEST

Acq Method Set :

Gr_5_95_16min_40C_0_4_K1_met_s



	RT	Area	Height (μV)	% Area
1	9.297	5114013	1967194	98.82
2	9.477	17275	8461	0.33
3	9.520	18059	4924	0.35
4	9.628	14050	2454	0.27
5	9.791	8093	1282	0.16

A: 0.05% TFA in water

B: 0.05% TFA in acetonitrile

Gradient : 5--> 95% B, 16min, 0.4ml/min

Acquity UPLC BEH130, 1.7μm, 2.1 x 150 mm column
column own temp. = 40 °C

2.5 Result of purity assessment

The overall purity is 98.82 % at 214 nm.

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3. Peptide identity by UPLC/MS:

3.1 HPLC Instrument:

LC-System Waters Acquity UPLC
Detectors: UV or DAD at 214 nm

3.2 HPLC conditions:

Eluents: A – MilliQ water + 0.05% TFA
 B – acetonitrile + 0.05% TFA
Flow rate: 0.40 mL/min
Gradient: from 5% B to 95% B in 4 min, according to chromatogram results
Column: Waters Acquity BEH, C-18, 1.7µm, 2.1mm x 50mm
 Part No 186002353

3.3 MS Detector:

Detector Waters (Micromass) ZQ 2000
Ionisation method: ES+
Scanning range: 200 – 2000 amu
Capillary voltage: 3.0 kV
Cone Voltage: 20 V
Scantime: 0.9 s
Interscan delay: 0.1 s
Detection method: quadrupole

3.4 Sample preparation:

An aliquote of Retatrutide (1,8 mg) was dissolved in 1 mL of water.
Injection: 1.0 µL

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3.5 Mass Spectra of Retatrutide (PO-2026302)

Sample information

UPLC1 ZQ

Channel Description ACQUITY TUV ChA 214nm

Vial : 1:F,7 Vol. : 1.00 ul

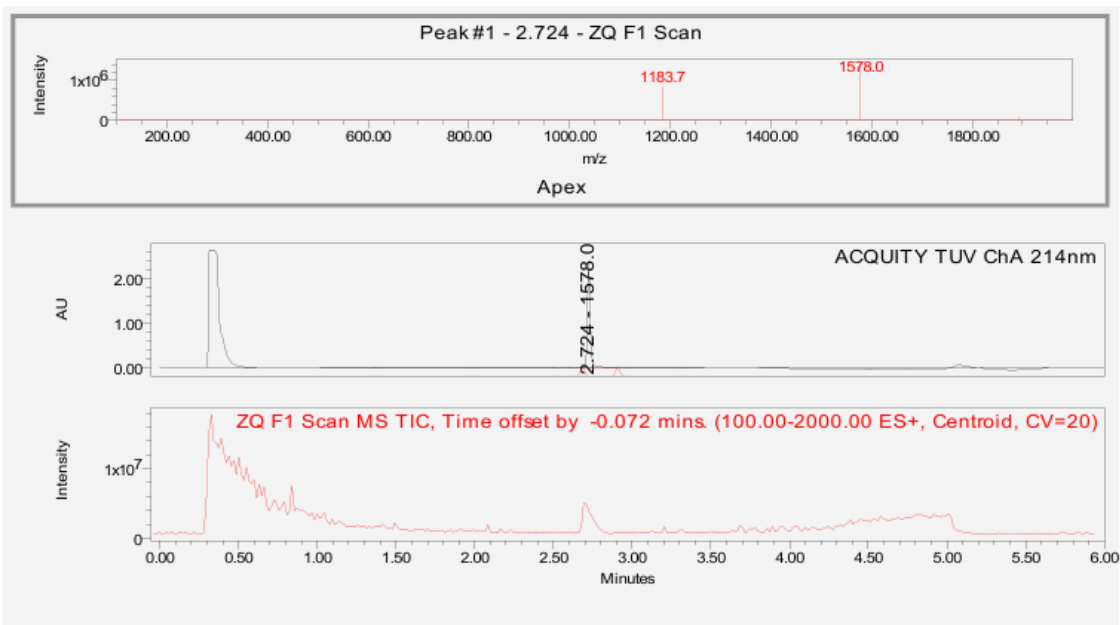
Sample: Retatrutide (PO-2026302)

Date Acquired 4/14/2026 12:13:25 PM CEST

Date Processed 4/14/2026 12:58:17 PM CEST

Acq Method Set :

Gr5_95_MS_4min_0_45ml_K2_me_s



MS Result Table

	Name	RT	Base Peak (m/z)
1		2.724	1577.96

UPLC conditions:

A: 0.05% TFA in water

B: 0.05% TFA in acetonitrile

Gradient :

0.0 - 0.5min 5 - 5 % B

0.5 - 4.0 min 5 - 95 % B

0.45ml/min

Acquity UPLC BEHC18, 1.7um, 2.1 x 50 mm column

column own temp. = 40 °C

Theoretical values of m/z:

Peptide MW	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺	[M+5H] ⁵⁺	[M+6H] ⁶⁺	[M+7H] ⁷⁺
4731,4	2366,7	1578,1	1183,9	947,3	789,6	676,9
Found	NA	1578,0	1183,7	NA	NA	NA

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4. Endotoxin test:

4.1 Description:

Test tubes: Gel Clot Lyophilized Amebocyte Lysate Single Test in Vial
Manufacturer: Xiamen Bioendo Technology Co., Ltd.
Lot: 24061152
Content: 0.2 ml endotoxin-specific Amebocyte Lysate which includes beta-glucan inhibitor in the formulation
Sensitivity of test: 0.5 EU/mL
Sample sensitivity level: 5 EU/mg

4.2 Sample preparation and test:

A sample peptide is dissolved in endotoxin-free water to form a concentration of 0.5 mg/mL. 200 µL of this solution is then transferred to the Amebocyte Lysate Single Test tube and incubated at 37 °C for 60 min. Immediately after incubation the test tube is slowly turned upside down.

A solid gel clot which doesn't come down immediately indicates **positive** result (meaning that endotoxins are above the current sensitivity level).

An absence of solid gel clot so the solution freely flows down from the bottom of test tube indicates **negative** result (meaning that endotoxin are below the current sensitivity level).

4.3 Result:

NEGATIVE (-)

CONCLUSION:

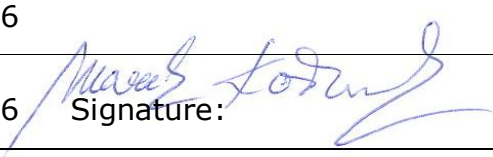
The sample Retatrutide (Batch No. 2026302) was analyzed for peptide content, UV purity, identity by MS and endotoxins.

Peptide content is 99.5 % (9.95 mg in 10 mg)

Purity is 98.82 % (UPLC at 214 nm).

MS identity complies with theoretical calculation of m/z values.

Endotoxin test (sensitivity level 5 EU/mg) - NEGATIVE.

ANALYSIS COMPLETED:	Date: 14.04.2026
Issued by QC:	Date: 15.04.2026  Signature: