

## ANALYTICAL CERTIFICATE

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|                           |                |
|---------------------------|----------------|
| <b>Sample name</b>        | <b>GHRP-6</b>  |
| <b>Batch No.</b>          | <b>2023149</b> |
| <b>Sample No.</b>         | <b>01</b>      |
| <b>Specification</b>      | <b>NA</b>      |
| <b>Manufacturing date</b> | <b>NA</b>      |

### 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 $\mu$  C4-BIO 300 A, 4.6 x 100 mm  
Serial No 221258

#### 1.3 Sample preparation:

The whole amount of GHRP-6 (5 mg) was dissolved in 1 mL of DMSO.  
Injection: 2  $\mu$ L

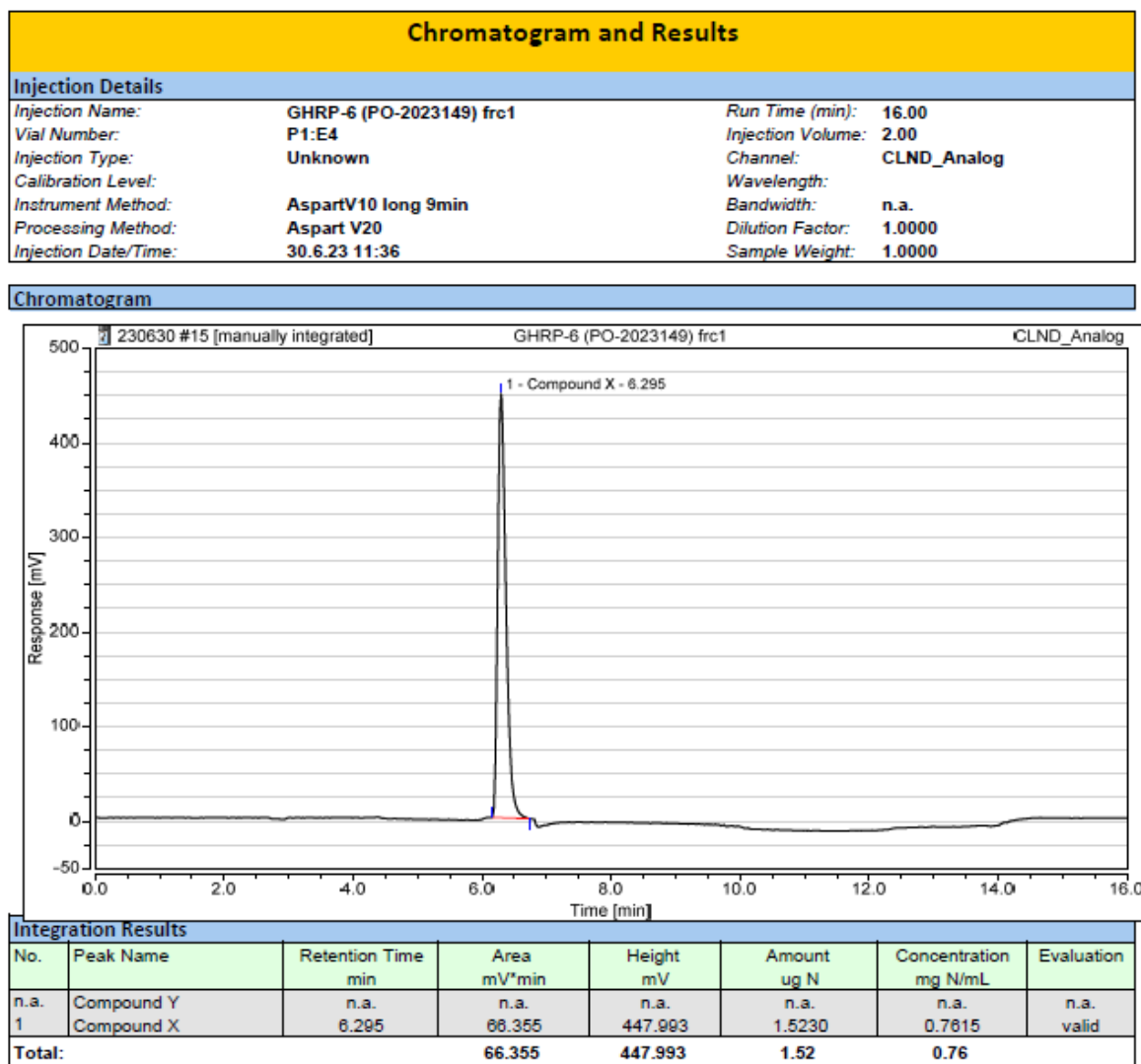
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## 1.4 Chromatograms and calibration curve:

Instrument: CLND-2 Sequence: 230630

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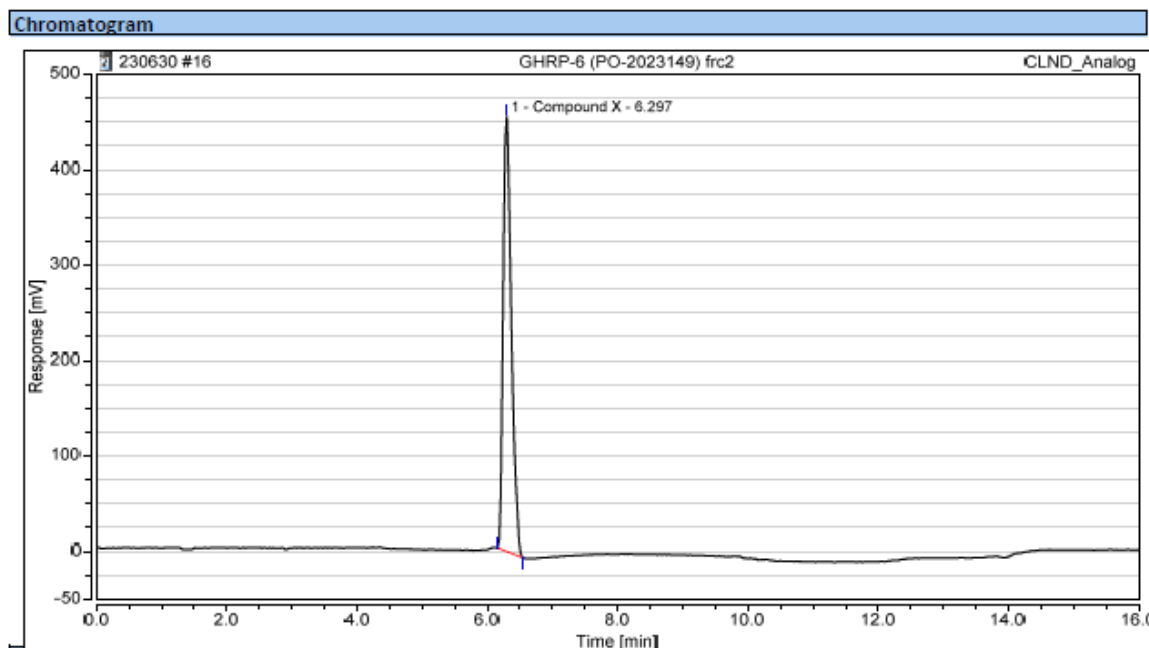
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Instrument:CLND-2 Sequence:230630

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| Chromatogram and Results |                          |                   |             |
|--------------------------|--------------------------|-------------------|-------------|
| Injection Details        |                          |                   |             |
| Injection Name:          | GHRP-6 (PO-2023149) frc2 | Run Time (min):   | 16.00       |
| Vial Number:             | P1:E4                    | Injection Volume: | 2.00        |
| Injection Type:          | Unknown                  | Channel:          | CLND_Analog |
| Calibration Level:       |                          | Wavelength:       |             |
| Instrument Method:       | AspartV10 long 9min      | Bandwidth:        | n.a.        |
| Processing Method:       | Aspart V20               | Dilution Factor:  | 1.0000      |
| Injection Date/Time:     | 30.6.23 11:53            | Sample Weight:    | 1.0000      |



| Integration Results |            |                       |                |                |                |                          |            |
|---------------------|------------|-----------------------|----------------|----------------|----------------|--------------------------|------------|
| No.                 | Peak Name  | Retention Time<br>min | Area<br>mV*min | Height<br>mV   | Amount<br>ug N | Concentration<br>mg N/mL | Evaluation |
| n.a.                | Compound Y | n.a.                  | n.a.           | n.a.           | n.a.           | n.a.                     | n.a.       |
| 1                   | Compound X | 6.297                 | 66.596         | 456.043        | 1.5276         | 0.7638                   | valid      |
| <b>Total:</b>       |            |                       | <b>66.596</b>  | <b>456.043</b> | <b>1.53</b>    | <b>0.76</b>              |            |

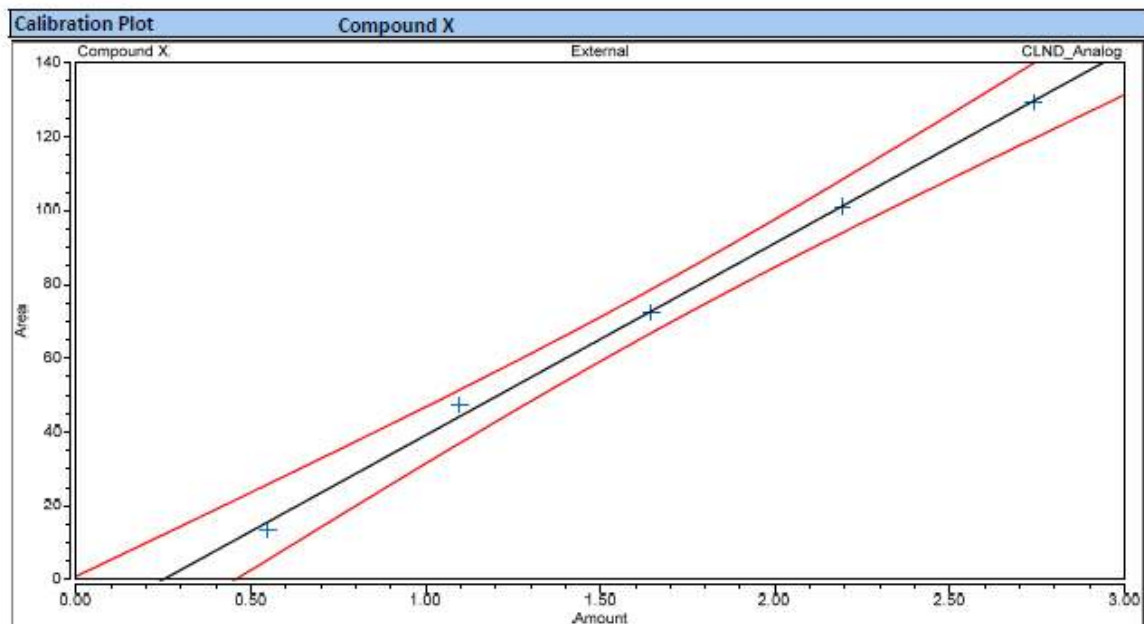
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Instrument:CLND-2 Sequence:230630

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| Calibration                           |                 |             |          |
|---------------------------------------|-----------------|-------------|----------|
| Calibration Details                   |                 | Compound X  |          |
| Calibration Type                      | Lin, WithOffset | Offset (C0) | -12.9286 |
| Evaluation Type                       | Area            | Slope (C1)  | 52.0582  |
| Number of Calibration Points          | 5               | Curve (C2)  | 0.0000   |
| Number of disabled Calibration Points | 0               | R-Square    | 0.9981   |



| Calibration Results |                | Compound X        |                           |                           |                           |                           |                           |
|---------------------|----------------|-------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| No.                 | Injection Name | Calibration Level | X Value                   | Y Value                   | Y Value                   | Area<br>mV*min            | Height<br>mV              |
|                     |                |                   | CLND_Analog<br>Compound X | CLND_Analog<br>Compound X | CLND_Analog<br>Compound X | CLND_Analog<br>Compound X | CLND_Analog<br>Compound X |
| 2                   | Aspart5        | 1                 | 2.7408                    | 129.2661                  | 129.2661                  | 129.266                   | 779.058                   |
| 3                   | Aspart4        | 1                 | 2.1926                    | 101.0407                  | 101.0407                  | 101.041                   | 608.682                   |
| 4                   | Aspart3        | 1                 | 1.6445                    | 72.3095                   | 72.3095                   | 72.310                    | 443.413                   |
| 5                   | Aspart2        | 1                 | 1.0963                    | 47.3381                   | 47.3381                   | 47.338                    | 289.828                   |
| 6                   | Aspart1        | 1                 | 0.5482                    | 13.4386                   | 13.4386                   | 13.439                    | 82.511                    |

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### 1.4 Results:

| NNC: GHRP-6 (Po-2023149)       |                                | Salt:                              | 0     |
|--------------------------------|--------------------------------|------------------------------------|-------|
| MW<br>(calculated)<br>g/mol    | N content<br>(calculated)<br>% | N conc.<br>(measured)<br>mg × N/ml |       |
| 873,03                         | 19,25                          | 0,7627                             |       |
| Theoretical Volume<br>ml       |                                | Lyophilizate amount<br>mg          |       |
| 1,00                           |                                | 5,00                               |       |
| Peptide concentration<br>mg/ml | nmol/ml                        | Quantified amount<br>mg            | nmol  |
| 3,96                           | 4538                           | 4,0                                | 4 538 |
| Peptide content assay<br>%     |                                |                                    |       |
| 79,2                           |                                |                                    |       |

### Summary table:

| Peptide | Aliquoting<br>(mg) | Total weight of<br>sample (mg) | Content of the<br>peptide by CLND<br>(mg) | Content of the peptide<br>in the sample (%) | Content of the peptide against<br>the amount on label. |
|---------|--------------------|--------------------------------|-------------------------------------------|---------------------------------------------|--------------------------------------------------------|
| GHRP-6  | 5                  | NA                             | 4.0                                       |                                             | 79.2%                                                  |

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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 60% B in 4 min, according to chromatogram results  
Column:                Waters Acquity BEH, C-18, 1.7µm, 2.1mm x 50mm  
                              Part No 186002353

#### **2.3 Sample preparation:**

The aliquote of GHRP-6 was dissolved in 1 mL of H<sub>2</sub>O.  
Injection:               1,5 µL

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## 2.4 Chromatogram of GHRP-6 (PO2023149)

### Sample information

#### UPLC 1

**Sample: GHRP-6 (PO-2023149)**

Channel Description PDA Ch1 214nm@4.8nm

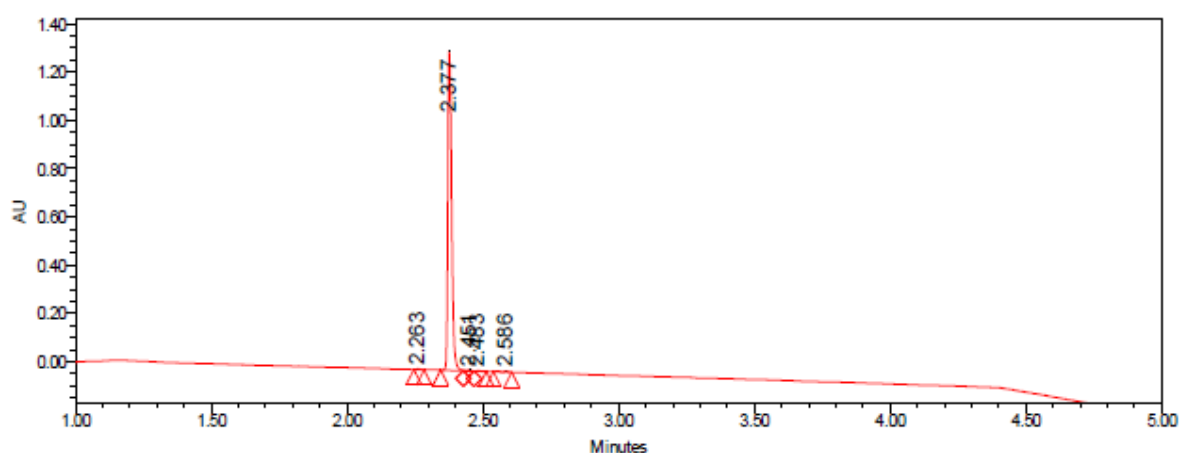
Date Acquired 7/26/2023 12:08:15 PM CEST

Vial : 1:A,5 Vol. : 1.50 ul

Date Processed 7/26/2023 3:49:31 PM CEST

Acq Method Set :

Gr5\_60\_4mi\_40C\_0\_45ml\_K2\_met\_s



|   | RT    | Area    | Height (μV) | % Area |
|---|-------|---------|-------------|--------|
| 1 | 2.263 | 2801    | 2836        | 0.21   |
| 2 | 2.377 | 1296800 | 1326332     | 98.60  |
| 3 | 2.451 | 6644    | 6245        | 0.51   |
| 4 | 2.483 | 2929    | 2733        | 0.22   |
| 5 | 2.586 | 5977    | 4665        | 0.45   |

A: 0.05% TFA in water

B: 0.05% TFA in acetonitrile

Gradient :

0.0 - 0.5min 0 - 0 % B

0.5 - 4 min 0 - 20 % B

4.0 - 4.5 min 20 - 100 % B

4.5 - 5.0min 100 % B

5.0 - 5.5min 100 - 5 % B

6min 5 % B

0.45ml/min

Acquity UPLC BEH C18, 1.7μm, 2.1 x 50 mm column

column oven temp. = 40 °C

## 2.5 Result of purity assessment

The overall purity is 98.60 % at 214 nm.

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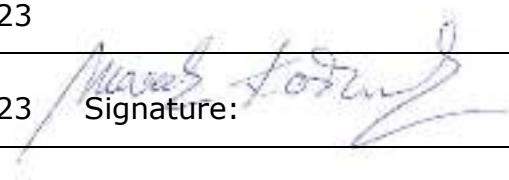
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**CONCLUSION:**

**The sample GHRP-6 (Batch No. 2023149) was analyzed for peptide content and UV purity.**

**Peptide content is 79.2 % (4.0 mg in 5 mg)**

**Purity is 98.60 % (UPLC at 214 nm).**

|                            |                                                                                                                  |
|----------------------------|------------------------------------------------------------------------------------------------------------------|
|                            |                                                                                                                  |
| <b>ANALYSIS COMPLETED:</b> | Date: 26.07.2023                                                                                                 |
| <b>Issued by QC:</b>       | Date: 26.07.2023 Signature:  |