LAB CENTRO
ANALYTICAL TESTING LABORATORY

# CERTIFICATE OF ANALYSIS

**Selank**

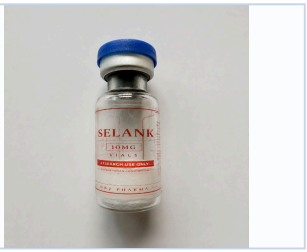
Lab Centro · Analytical Chemistry | Mass Spectrometry | Microbiology
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CERTIFICATE NO.
**COA-2026-0818-SEL-2188**


| PREPARED FOR | CLIENT WEBSITE | DISTRIBUTION |
|---|---|---|
| **H&J Pharma** | **vietnam-peptides.com** | **Client confidential** |

## 1 SAMPLE & ACCESSION

| ANALYTE / IDENTITY | CAS NUMBER | MOLECULAR FORMULA | MOLECULAR MASS (DA) |
|---|---|---|---|
| Selank | 129954-34-3 | C33H57N11O9 | 751.89 |
| **SUBSTANCE CLASS** | **REFERENCE-DATA CONFIDENCE** | **LOT NUMBER** | **LABELED CONTENT** |
| Peptide, 7-mer | High | SEL-2026-0804-4309 | 10 mg |
| **ACCESSION NO.** | **SAMPLE MATRIX** | **APPEARANCE** | **STORAGE** |
| ACC-2026-0818-SEL-2188 | Lyophilized | Conforms | -20 °C, protected from light |
| **MANUFACTURED** | **RETEST / EXPIRY** | **DATE RECEIVED** | **DATE ANALYZED** |
| 08/12/2026 | 08/12/2028 | 08/26/2026 | 08/28/2026 |
| **RECONSTITUTION VOLUME** | **DISPOSITION** | | |
| 1.0 mL | RELEASED | | |




| PURITY | IDENTITY | NET PEPTIDE | MOISTURE |
|---|---|---|---|
| **99.70%** | **Confirmed** | **10.14 mg** | **4.02%** |
| PASS | PASS | REPORTED | PASS |

| STERILITY | ENDOTOXIN | HEAVY METALS |
|---|---|---|
| **No Growth** | **0.093** | **ND** |
| PASS | PASS | PASS |

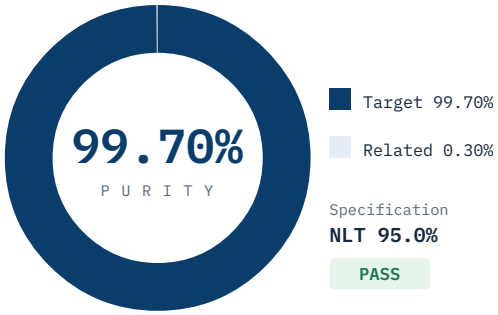
## 2 PURITY, QUANTITATION & IDENTITY

HPLC · HPLC-RTM · LC-MS

| PARAMETER | METHOD | SPECIFICATION | RESULT | UNIT | STATUS |
|---|---|---|---|---|---|
| Peptide purity (HPLC) | RP-HPLC-UV 214 nm | NLT 95.0% | 99.70 | % | PASS |
| Net peptide content | HPLC / AAA | Report only | 10.14 | mg | REPORTED |
| Identity (HPLC-RTM) | Retention-time match | Co-elution | Confirmed | — | PASS |
| Fentanyl screen | Immunoassay 50 ng/mL | Not Detected | Not Detected | — | PASS |

Chromatographic purity of 99.70% is measured against a not-less-than 95.0% release criterion. Net peptide content of 10.14 mg is reported against a nominal 10 mg label claim.

**FIGURE 1 · PURITY**




HPLC area normalization. Target 99.70%, related substances 0.30%.

## 3 REPRESENTATIVE CHROMATOGRAM

RP-HPLC-UV

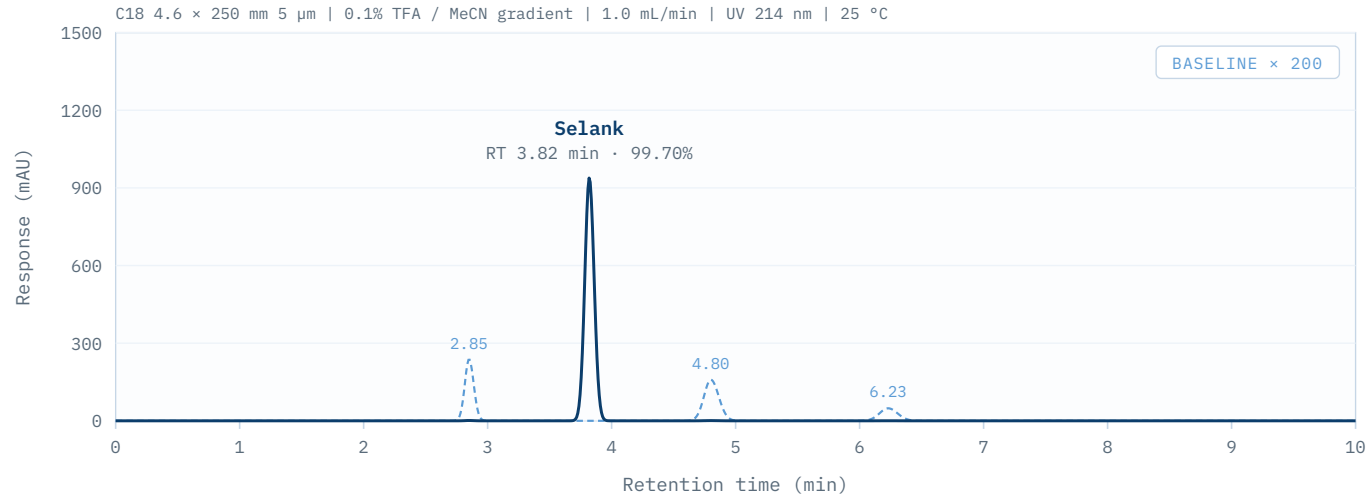



Figure 2. Chromatogram exported from the HPLC data system. — retention time, area, plate count and tailing factor define each peak envelope ($\sigma = t_R/\sqrt{N}$). Related substances shown magnified as the dashed trace, at the factor marked on the plot.

| PEAK | RT (MIN) | AREA (µAU·S) | AREA % | PLATES (N) | TAILING |
|---|---|---|---|---|---|
| Selank (principal) | 3.82 | 4,985,000 | 99.70 | 11,720 | 1.07 |
| Related substance 1 (RRT 0.75) | 2.85 | 6,000 | 0.12 | 7,212 | 1.11 |
| Related substance 2 (RRT 1.35) | 4.80 | 6,500 | 0.13 | 7,794 | 1.15 |
| Related substance 3 (RRT 1.72) | 6.23 | 2,500 | 0.05 | 8,250 | 1.09 |
| **Total** | – | **5,000,000** | **100.00** | – | – |

## 4 MASS CONFIRMATION

LC-MS, ESI positive

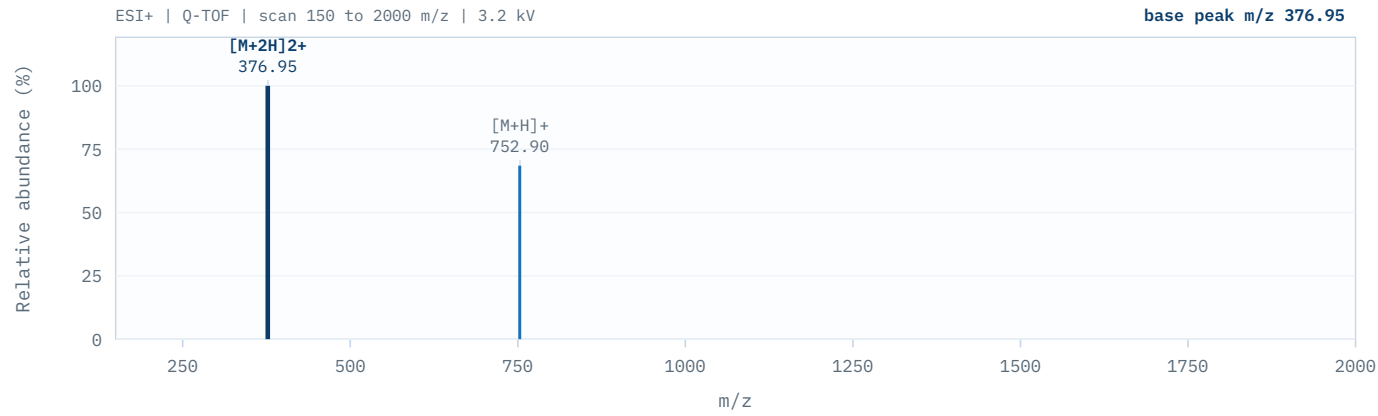


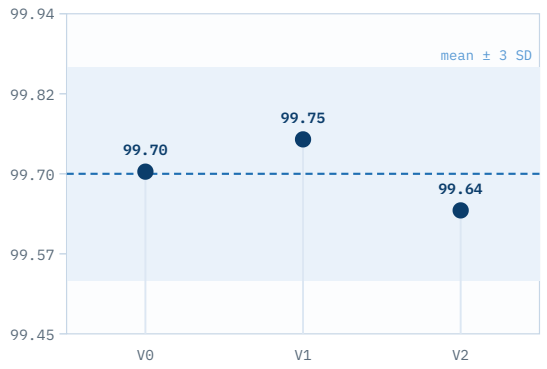

Figure 3. Acquired ESI(+) mass spectrum of the analyzed sample.

## 5 BATCH CONFORMITY

three independently sampled units

| UNIT | PURITY (%) | NET CONTENT (MG) | IDENTITY | STATUS |
|---|---|---|---|---|
| V0 (dedicated) | 99.70 | 10.14 | Confirmed | PASS |
| V1 | 99.75 | 10.14 | Confirmed | PASS |
| V2 | 99.64 | 10.19 | Confirmed | PASS |

**FIGURE 4 · CONFORMITY**




Mean 99.70% · SD 0.055%
Lower spec limit 95.0% (off scale)

## 6 COMPOSITION, MOISTURE & COUNTERION

KF · IC · USP <467>

| PARAMETER | METHOD | SPECIFICATION | RESULT | UNIT | STATUS |
|---|---|---|---|---|---|
| Net peptide content | HPLC / AAA | Report only | 10.14 | mg | REPORTED |
| Water (Karl Fischer) | USP <921> | NMT 8.0% w/w | 4.02 | % w/w | PASS |
| Counterion (acetate) | Ion chromatography | Report only | 6.88 | % w/w | REPORTED |
| Residual solvents (TFA) | USP <467> headspace GC | Not Detected | ND | — | PASS |
| Gross fill weight | Gravimetric | Report only | 11.35 | mg | REPORTED |

## 7 MASS BALANCE PER VIAL

components must sum to the gross fill

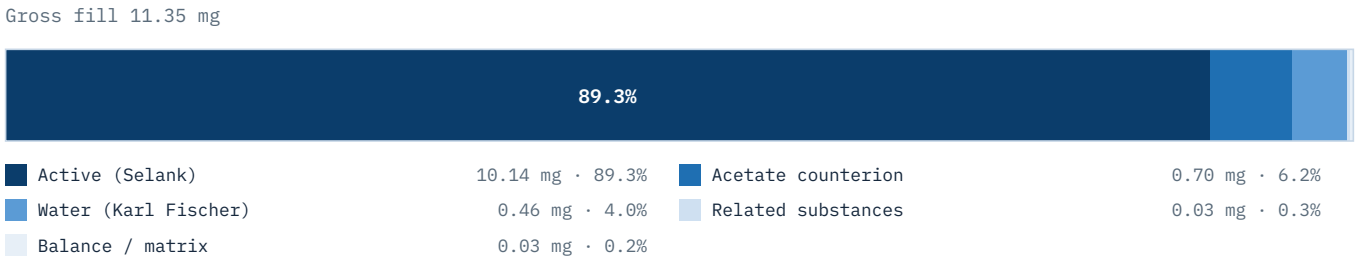


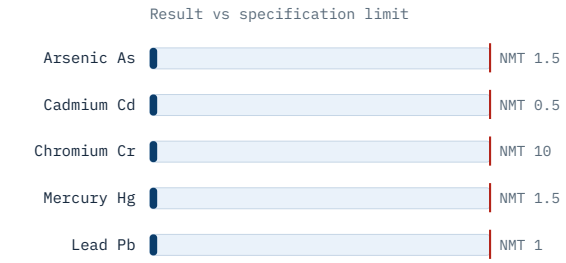

Figure 5. Mass balance of the lyophilized cake. Components sum to 11.35 mg against a gross fill of 11.35 mg.

## 8 SAFETY & CONTAMINATION CONTROLS

ICP-MS · USP <71> <61> <85>

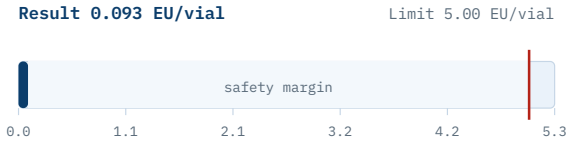
| PARAMETER | SPECIFICATION | RESULT | STATUS |
|---|---|---|---|
| Arsenic (As) | NMT 1.5 ppm | Not Detected | PASS |
| Cadmium (Cd) | NMT 0.5 ppm | Not Detected | PASS |
| Chromium (Cr) | NMT 10 ppm | Not Detected | PASS |
| Mercury (Hg) | NMT 1.5 ppm | Not Detected | PASS |
| Lead (Pb) | NMT 1 ppm | Not Detected | PASS |
| Sterility | No Growth (USP <71>) | No Growth | PASS |
| Bioburden | < 10 CFU/mL (USP <61>) | < 1 | PASS |
| Bacterial endotoxin | NMT 5.00 EU/vial | 0.093 | PASS |

**FIGURE 6 · ELEMENTAL HEADROOM**




ND = below LOQ (0.01 – 0.05 ppm)
red rule = specification limit

**FIGURE 7 · ENDOTOXIN MARGIN**




Result is 2% of the limit · ~53.8× margin

## 9 FOR THE RECIPIENT — plain-language summary

| | | | |
|---|---|---|---|
| **Purity (HPLC)** | Percent of the main peak relative to all detected peaks. | **Net peptide content** | Measured mass of active, separate from water and salt. |
| **NMT / NLT** | Not more than / not less than — an acceptance limit. | **Not Detected** | Below the method limit of quantitation (LOQ). |
| **EU/vial** | Endotoxin units per vial; acceptance limit is 5.00 EU/vial. | **RRT** | Relative retention time; an impurity position versus the main peak. |
| **Counterion** | The salt partner of the peptide. | **Karl Fischer** | Titration for residual water (USP <921>). |

**Storage.** Store the sealed lyophilized vial according to the product storage specification. Reconstituted solution should be handled according to the applicable product specification. **Handling.** Research use only; not for human or veterinary use.

## 11 AUTHORIZATION

**Laboratory Director**
Name: Alejandro Navarro
Date: 08/29/2026

**Quality Assurance**
Name: Oliver Bennett
Date: 08/29/2026

**AUTHENTICATE THIS CERTIFICATE**

Scan the code or verify at https://labcentro.com/coa-verification/?cert=COA-2026-0818-SEL-2188&code=FHLATWZG
Verification ID: FHLATWZG

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