

## CERTIFICATE OF ANALYSIS

Semax Batch OP-SM413V September 2026

|                     |                                                    |                      |                                                        |
|---------------------|----------------------------------------------------|----------------------|--------------------------------------------------------|
| Product name        | Semax                                              | Molecular formula    | $C_{37}H_{51}N_9O_{10}S$                               |
| Batch number        | OP-SM413V                                          | Molecular weight     | 813.92 g/mol                                           |
| CAS number          | 80714-61-0                                         | Quantity             | 5 mg                                                   |
| Date of manufacture | September 2026                                     | PubChem CID          | 9811102                                                |
| Date of analysis    | 3 September 2026                                   | Analytical reference | XA10-20260903S8207                                     |
| Storage             | Powder: -20°C 3 years; 4°C 2 years; 15°C 3 months. | Storage              | In solvent: -80°C 6 months; -20°C 1 month; 10°C 1 week |

## Amino acid sequence

MEHFPGP (Met-Glu-His-Phe-Pro-Gly-Pro)

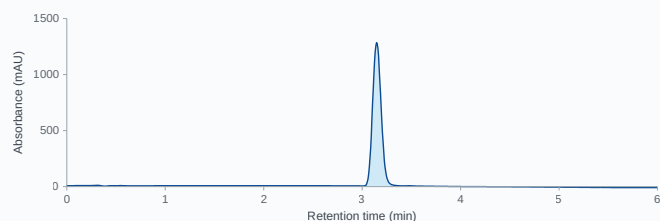
7 residues

## Analytical results

| Test parameter                  | Method                    | Specification              | Result         | Status |
|---------------------------------|---------------------------|----------------------------|----------------|--------|
| Appearance                      | Visual                    | White to off-white powder  | Not determined | —      |
| Peptide purity                  | RP-HPLC (UV 220 nm)       | ≥ 98.5%                    | 99.80%         | ✓      |
| Molecular weight confirmation   | ESI-MS                    | 813.92 ± 1.0 Da            | Conforms       | ✓      |
| Water content                   | Karl Fischer              | ≤ 10.0%                    | Not determined | —      |
| Counter-ion content             | HPLC                      | TFA ≤ 0.50% (acetate salt) | Not determined | —      |
| Total related substances        | RP-HPLC (UV 220 nm)       | ≤ 2.0%                     | 0.20%          | ✓      |
| Largest single impurity         | RP-HPLC (UV 220 nm)       | ≤ 1.0%                     | 0.20%          | ✓      |
| Residual solvent — Acetonitrile | GC-HS                     | ≤ 410 ppm                  | Not determined | —      |
| Residual solvent — DCM          | GC-HS                     | ≤ 600 ppm                  | Not determined | —      |
| Residual solvent — DMF          | GC-HS                     | ≤ 880 ppm                  | Not determined | —      |
| Bacterial endotoxins            | LAL kinetic turbidimetric | < 5 EU/mg                  | Not determined | —      |
| Bioburden                       | USP <61>                  | < 100 CFU/g                | Not determined | —      |

## HPLC chromatogram RP-HPLC UV 220 nm

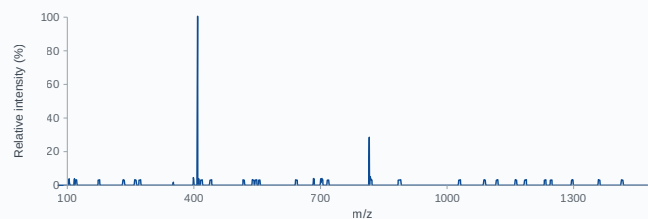
UV detection at 220 nm — LCMS-02AB gradient, 6 min run — as recorded



Main peak RT 3.144 min · Area 99.80% · Largest imp 0.20% · Total related 0.20%

## Mass spectrum ESI-MS positive

Electrospray ionisation — positive mode, Frag 110 V

Observed  $[M+H]^+$  814.5 · MW 813.92 g/mol

✓ Overall result: Conforms to specification

Charts are measured data. Both panels are redrawn from the instrument's own chromatogram and mass spectrum in report XA10-20260903S8207 — no curve is modelled or simulated. **Not determined** marks parameters the supplied LC-MS report does not cover; they are not carried over from any previous batch and are not certified here.

Results relate only to the batch tested, by the stated methods at time of release, and are provided in good faith without warranty — OP Labs does not guarantee the accuracy or completeness of the results. Storage figures are recommendations, not stability data. Research use only — not for human or veterinary use.