



CERTIFICATE OF ANALYSIS

Issued by an ISO/IEC 17025-accredited laboratory · raw data appended (page 2)

PASS

QC released for dispatch



Scan to verify

Semax — 20mg

Semax Acetate

1. PRODUCT IDENTIFICATION

Synonym	Semax Acetate	Label claim	20mg
Sequence / structure	Met-Glu-His-Phe-Pro-Gly-Pro	Lot / Batch	ZX260512-206 / B68278
Mol. formula	C37H51N9O10S	Manufacture date	1 Jun 2026
Mol. weight	813.93 g/mol	Date of analysis	13 Jun 2026
CAS number	80714-61-0	Storage	-20 °C, dark, desiccated
Salt form	Acetate salt		

2. ANALYTICAL TEST RESULTS

Test	Method	Specification	Result	Verdict
Appearance	Visual	White/off-white powder	White to off-white lyophilized powder	PASS
Identity (ESI-MS)	LC-MS	Matches 813.93 Da	813.94 Da (Δ 12 ppm)	PASS
Purity	RP-HPLC, UV 220 nm	$\geq 98.0\%$ area	99.12%	PASS
Related substances	RP-HPLC	Single ≤ 1.0 / Total $\leq 2.0\%$	0.41 / 0.88%	PASS
Water content	Karl Fischer (USP <921>)	$\leq 8.0\%$	1.2%	PASS
Counter-ion: acetate	Ion chromatography	Report (3.0–15.0%)	9.8%	PASS
Net peptide content	Amino-acid analysis	$\geq 80.0\%$	87.8%	PASS
Bacterial endotoxin	LAL kinetic (USP <85>)	< 5.0 EU/mg	0.04 EU/mg	PASS
Heavy metals	ICP-MS (ICH Q3D)	Conforms	Conforms	PASS

CONCLUSION

All tested parameters CONFORM to the acceptance specifications. The batch is of high chromatographic purity ($\geq 98\%$) with an impurity profile, identity and residual/contaminant results meeting pharmaceutical-grade quality requirements. Material released. Supporting RP-HPLC chromatogram and ESI-MS spectrum are appended on page 2.

DZL.

Dr. Zhao Liang

Analyst · 13 Jun 2026 · Zhongxi Research Institute

DLX.

Dr. Lin Xia (QC Manager)

Approved by · 13 Jun 2026 · Zhongxi Research Institute



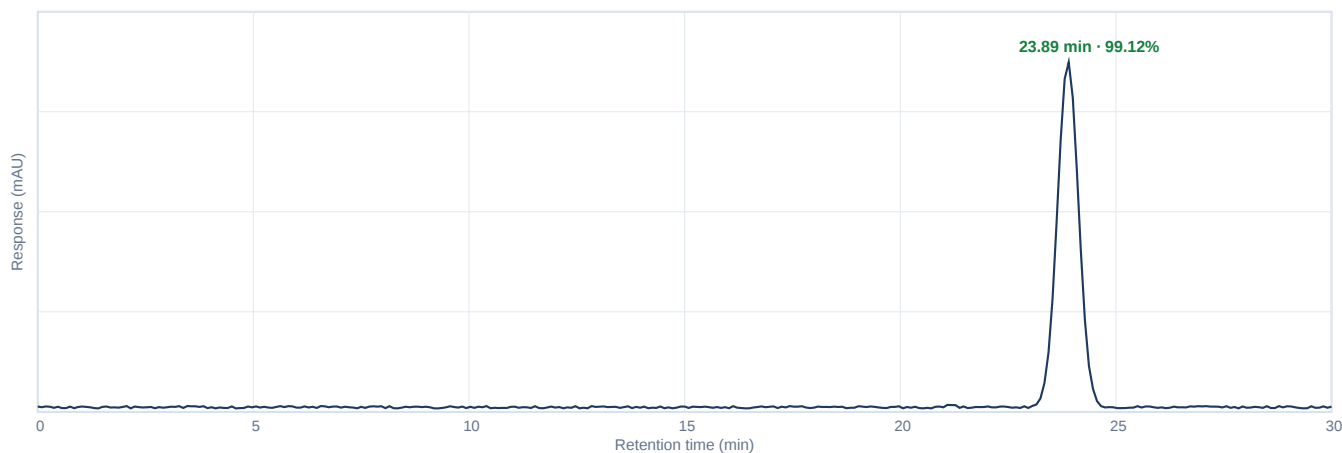
APPENDIX — ANALYTICAL RAW DATA

Semax 20mg · Lot ZX260512-206 · Cert. ZXR-COA-2026-69440



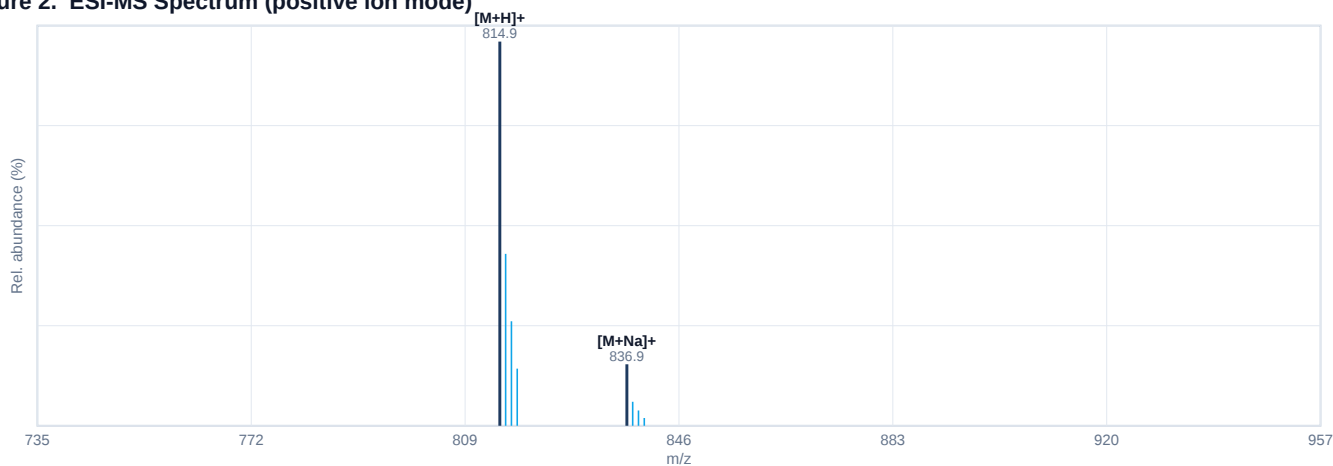
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Figure 1. RP-HPLC Chromatogram (UV 220 nm)



Peak #	RT (min)	Area (μV·s)	Area %	Assignment
1	23.89	993371	99.12	Main (target)
2	21.15	4032	0.41	Impurity / related substance
3	3.61	2282	0.24	Impurity / related substance
4	6.03	2254	0.23	Impurity / related substance

Figure 2. ESI-MS Spectrum (positive ion mode)



Interpretation

Identity confirmed by ESI-MS. Observed ions [M+H]⁺ 814.9, [M+Na]⁺ 836.9 deconvolute to a neutral monoisotopic-average mass of 813.94 Da (theoretical 813.93 Da; mass error 12 ppm), consistent with Semax. No co-eluting species above 0.5% indicative of misidentification.

Methods — RP-HPLC: Agilent 1260 Infinity II; Zorbax SB-C18 4.6×250 mm, 5 μm; A: 0.1% TFA in water, B: 0.1% TFA in MeCN; 10–70% B over 30 min; 1.0 mL/min; 25 °C; 20 μL injection. MS: AB Sciex TripleTOF, ESI+, capillary 4.5 kV, deconvolution by Bio Tool Kit. KF: Metrohm 901. IC: Thermo Dionex ICS-6000. ICP-MS: Agilent 7900.