

Semaglutide GLP-1 receptor agonist · RUO

PRODUCT	Semaglutide	APPEARANCE	White lyophilized powder
LOT / BATCH NO.	SMLT-N-2510001	MANUFACTURING DATE	2025-10-12
CAS NO.	910463-68-2	RETEST DATE	2028-10-11
MOLECULAR FORMULA	C ₁₈₇ H ₂₉₁ N ₄₅ O ₅₉	STORAGE	-20 °C, desiccated, protected from light
MOLECULAR WEIGHT	4113.6 g/mol	REPORT DATE	2026-01-05

#	TEST	SPECIFICATION	RESULT
1	Appearance	White or off-white powder	White powder
2	Specific Rotation	-2.0° to -20.0°	-11.3°
3	Solubility	≥ 2 mg/mL in water	Conforms
4	Identification (MS)	MW 4113.6 ± 2.0	4112.8
5	Identification (HPLC)	Retention time corresponds to the standard	Conforms
6	Amino Acid Composition (HPLC)	Asp 0.8–1.2 · Glu 4.0–6.0 · His 0.8–1.2 · Thr 1.6–2.4 · Aeea 1.6–2.4 · Tyr 0.8–1.2 · Lys 0.8–1.2 · Leu 1.6–2.4 · Ser 2.4–3.6 · Gly 3.2–4.8 · Arg 1.6–2.4 · Ala 2.4–3.6 · Aib 0.7–1.1 · Val 1.6–2.4 · Ile 0.8–1.2 · Phe 1.6–2.4 · Trp 0.4–1.1	1.0 · 5.2 · 1.1 · 1.9 · 2.0 · 1.0 · 1.0 · 2.0 · 2.7 · 4.2 · 2.0 · 2.9 · 1.0 · 2.0 · 1.0 · 2.0 · 0.9
7	Peptide Mapping	Profile corresponds to the standard	Conforms
8	Color & Clarity of Solution	Clear and colorless	Conforms
9	pH	5.0 – 8.0	6.8
10	Related Substances (HPLC)	[D-Ser8]-SMLT ≤ 0.15% [D-His]-SMLT ≤ 0.15% [2-31]-SMLT ≤ 0.15% [3-31]-SMLT ≤ 0.15% Unspecified single impurity ≤ 0.10% Total impurities ≤ 1.0% Impurities > MW (SEC) ≤ 1.0%	0.08% 0.09% 0.07% 0.04% 0.05% 0.49% 0.02%
11	Peptide Purity (HPLC, area %)	≥ 99.0% (100% – total impurities)	99.51%
12	Acetic Acid	≤ 0.25%	< LOQ (0.005%)
13	Trifluoroacetic Acid	≤ 0.25%	< LOD (0.002%)
14	Sodium Content	≤ 2.0%	1.8%
15	Water (K.F)	≤ 10.0%	1.4%
16	Residual Solvents	Acetonitrile ≤ 410 ppm Methanol ≤ 3000 ppm Isopropanol ≤ 5000 ppm Methyl tert-butyl ether ≤ 500 ppm	< LOQ (17.62 ppm) < LOD (36.21 ppm) < LOD (11.96 ppm) < LOD (0.6 ppm)
17	Bacterial Endotoxins	< 2 EU/mg	Conforms
18	Microbial Limits	Total aerobic ≤ 100 CFU/g Yeast & molds ≤ 50 CFU/g	< 10 CFU/g < 10 CFU/g
19	Peptide Content	≥ 80.0%	98.5%
20	Assay (anhydrous, salt-free)	95.0 – 105.0%	101.8%



AUTHENTICITY VERIFICATION

NST-SEMA-SMLT-N-2510001-BD3BBC

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Batch analytical data reviewed & released under NST Research Quality Control

NST Research

Quality Control Department · Date: 2026-01-05

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