

FAT LOSS

Semaglutide

GLP-1 Receptor Agonist

Long-acting GLP-1 receptor agonist. Reference standard for weekly GLP-1 research.

MECHANISM GLP-1 receptor agonist	DOSAGE 0.25–2.4 mg once weekly SC	HALF-LIFE ~7 days	FORMAT Lyophilised powder
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BATCH NU-SEM-4256	LOT 292256	CAS 910463-68-2	FORMULA C187H291N45O...	ISSUED 2025-06-17	RETEST 2026-06-17
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OVERVIEW

Semaglutide is a GLP-1 receptor agonist with a half-life engineered for once-weekly dosing. It acts centrally to reduce appetite and caloric intake, and peripherally to slow gastric emptying and improve insulin secretion. STEP programme trials showed 14–17% mean bodyweight reduction at 2.4 mg/week. It has become the reference standard against which newer GLP-1-class peptides are benchmarked.

MECHANISM OF ACTION

GLP-1 receptor agonist

KEY RESEARCH BENEFITS

- 14–17% mean bodyweight reduction in STEP trials
- Significant cardiovascular risk reduction (SELECT trial)
- Reduces HbA1c and fasting glucose
- Slows gastric emptying — prolonged satiety
- Neuroprotective effects under investigation

RESEARCH NOTES

STEP 1–4 trials demonstrated consistent 14–17% weight loss. The SELECT cardiovascular outcomes trial (N = 17,604) showed 20% reduction in MACE events vs placebo.

STORAGE & STABILITY

Lyophilised: -20 °C, stable >=24 months. Reconstituted: 2–8 °C, use within 28 days.