

Semaglutide

Semaglutide is a long-acting glucagon-like peptide-1 (GLP-1) receptor agonist. It is FDA-approved for type 2 diabetes (Ozempic, Rybelsus) and chronic weight management (Wegovy).

Formula	C ₁₈₇ H ₂₉₁ N ₄₅ O ₅₉
Average mass	4,113.60 g/mol
Evidence	Approved drug
US status	FDA-approved (Ozempic, Wegovy, Rybelsus)
WADA	Check the current Prohibited List

31-residue GLP-1 analogue with Aib8 and a C18 fatty diacid on Lys26 via a linker.

What the COA should show

A COA should confirm identity by mass spectrometry, with the observed mass matching the expected mass for the acylated peptide shown on this page, and report purity by reverse-phase HPLC. The fatty diacid side chain must be present and correctly attached at Lys26; non-acylated peptide, incompletely built side chains and positional isomers are key impurities. Salt forms matter: material sold as semaglutide sodium or acetate is not the same as the approved drug substance, and FDA has warned that salt forms differ from the active ingredient in approved products. Aggregation, oxidation of tryptophan and deamidation should also be monitored. Endotoxin and net peptide content should be reported.

Storage and stability

Research material should be stored lyophilized at -20 °C, sealed and protected from light. The acylated peptide is amphiphilic and can self-associate or aggregate in solution, so avoid vigorous shaking and use buffers appropriate to the specific application. Approved drug products are stored according to their labeling, which typically involves refrigeration before first use. Avoid repeated freeze-thaw cycles for laboratory solutions.

Full entry, references and latest research: <https://peptidewiki.net/compounds/semaglutide/>
For laboratory research reference only. Not medical advice; not for human or veterinary use.