

Liraglutide

Liraglutide is a once-daily glucagon-like peptide-1 (GLP-1) receptor agonist with a fatty acid side chain. It is FDA-approved for type 2 diabetes (Victoza) and chronic weight management (Saxenda).

Formula	C ₁₇₂ H ₂₆₅ N ₄₃ O ₅₁
Average mass	3,751.20 g/mol
Evidence	Approved drug
US status	FDA-approved (Victoza, Saxenda)
WADA	Check the current Prohibited List

GLP-1(7-37) analogue with Arg34 and a C16 palmitic acid on Lys26 via a glutamate spacer.

What the COA should show

A certificate of analysis for liraglutide should confirm identity by mass spectrometry, with the expected mass including the palmitoyl-γ-glutamyl side chain, and report reverse-phase HPLC purity. Key impurities include peptides lacking the side chain, side-chain isomers, deletion or insertion sequences, and oxidized tryptophan. Liraglutide self-associates and can form aggregates or fibrils, so size-exclusion chromatography is relevant. Pharmacopoeial and regulatory guidance for synthetic liraglutide, including comparison with recombinant-origin material, provides useful benchmarks. Counter-ion and net peptide content should be stated for research material.

Storage and stability

Store lyophilized liraglutide sealed at -20 °C, protected from light and moisture, and allow vials to reach room temperature before opening. In solution, the fatty acid chain promotes self-association and adsorption to surfaces, and the peptide can aggregate when agitated or exposed to heat; gentle handling and low-binding containers help. Solutions for lab use should be refrigerated for short-term work, aliquoted for longer storage, and not subjected to repeated freeze-thaw cycles. Approved products have their own labeled storage conditions.

Full entry, references and latest research: <https://peptidewiki.net/compounds/liraglutide/>
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