

Tirzepatide

Tirzepatide is a once-weekly peptide that activates both the GIP and GLP-1 receptors. It is FDA-approved for type 2 diabetes (Mounjaro) and chronic weight management (Zepbound).

Formula	C ₂₂₅ H ₃₄₈ N ₄₈ O ₆₈
Average mass	4,813.50 g/mol
Evidence	Approved drug
US status	FDA-approved (Mounjaro, Zepbound)
WADA	Check the current Prohibited List

39-residue GIP-based dual agonist with a C20 fatty diacid side chain.

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. Key impurities include peptide lacking the fatty diacid side chain, incompletely assembled linkers, deletion sequences from the 39-residue synthesis and racemized residues. The salt form should be stated, as it may differ from the approved drug substance. Aggregation and oxidation should be monitored, and endotoxin and net peptide content reported.

Storage and stability

Research material should be stored lyophilized at -20 °C, sealed and protected from light and moisture. As an amphiphilic acylated peptide, tirzepatide can self-associate in solution, so avoid vigorous agitation and inappropriate buffers. Approved drug products are stored according to their labeling, typically refrigerated. Avoid repeated freeze-thaw cycles for laboratory solutions and allow vials to warm to room temperature before opening.

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