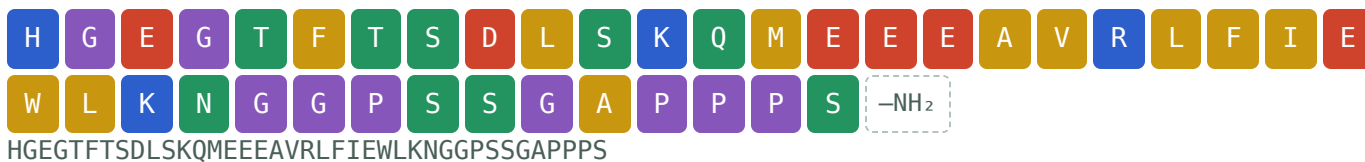


Exenatide

Exenatide is a 39-amino-acid GLP-1 receptor agonist, a synthetic version of exendin-4 found in Gila monster saliva. It was the first GLP-1 receptor agonist approved by the FDA, as Byetta and later Bydureon, for type 2 diabetes.



■ Hydrophobic
 ■ Acidic
 ■ Basic
 ■ Polar
 ■ Gly, Pro, Cys
 ■ Non-standard

Length	39 residues
Formula	C ₁₈₄ H ₂₈₂ N ₅₀ O ₆₀ S
Average mass	4,186.57 g/mol
Monoisotopic mass	4,184.0273 Da
Evidence	Approved drug
US status	FDA-approved (Byetta, Bydureon)
WADA	Check the current Prohibited List

Synthetic exendin-4: 39 residues, C-terminal amide.

Expected ions (monoisotopic)

[M+H] ⁺	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺
4,185.0346	2,093.0209	1,395.6830	1,047.0141

What the COA should show

A certificate of analysis should confirm identity by mass spectrometry against the expected mass shown on this page and report reverse-phase HPLC purity with the chromatogram. Methionine at position 14 readily oxidizes (+16 Da) and tryptophan can also oxidize, so oxidized variants should be quantified. Deamidation of Asn28 or Gln13 (+1 Da), C-terminal acid variants (+1 Da) and deletion sequences, including truncations at the proline-rich C-terminus, are other common impurities.

Aggregation is possible at high concentrations. The counter-ion, typically acetate, and net peptide content should be stated.

Storage and stability

Store lyophilized exenatide sealed at -20 °C or colder, protected from light and moisture, and allow vials to reach room temperature before opening. The methionine and tryptophan residues make it sensitive to oxidation, so exposure to air and light should be minimized and solutions should be prepared in degassed buffer where practical. For lab use, keep solutions refrigerated for short-term work, aliquot for longer storage at -20 °C or below, and avoid repeated freeze-thaw cycles.

Approved products have their own labeled storage requirements.