

Pramlintide

Pramlintide is a synthetic analogue of the pancreatic hormone amylin, modified with three proline substitutions to prevent aggregation. It is FDA-approved as Symlin for use with mealtime insulin in type 1 and type 2 diabetes.



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

Length	37 residues
Formula	C ₁₇₁ H ₂₆₇ N ₅₁ O ₅₃ S ₂
Average mass	3,949.39 g/mol
Monoisotopic mass	3,946.9207 Da
Evidence	Approved drug
US status	FDA-approved (Symlin)
WADA	Check the current Prohibited List

37-residue amylin analogue with Pro25, Pro28 and Pro29; Cys2–Cys7 disulfide.

Expected ions (monoisotopic)

[M+H] ⁺	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺
3,947.9280	1,974.4676	1,316.6475	987.7374

What the COA should show

A certificate of analysis should confirm identity by mass spectrometry against the expected mass shown on this page, which assumes the oxidized (disulfide-bonded) form. The reduced form with free cysteines is about 2 Da heavier, and disulfide-linked dimers are possible. Purity should be reported by reverse-phase HPLC. Pramlintide contains multiple asparagine residues, so deamidation (+1 Da) is a main degradation route, and the C-terminal amide should be confirmed. Although prolines reduce aggregation, aggregation should still be assessed. The counter-ion, typically acetate, and net peptide content should be stated.

Storage and stability

Store lyophilized pramlintide sealed at -20 °C or colder, protected from moisture and light, and allow vials to reach room temperature before opening. Pramlintide is more stable in mildly acidic solutions, and the approved product is formulated at acidic pH; at neutral pH, deamidation of its asparagine residues accelerates. For lab use, prepare solutions in a suitable acidic buffer where compatible, keep them refrigerated for short-term work, aliquot for longer storage, and avoid repeated freeze-thaw cycles.

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