



<b>Name</b>	<b>Pramlintide Acetate</b>
<b>Cat #</b>	PP-1620
<b>Size</b>	50 mg (or 1 g, 10 g, 100, g and bulk custom packages)
<b>CAS#</b>	196078-30-5
<b>Mol. Mass</b>	3949.47
<b>Formula</b>	C171H267N51O53S2
<b>Sequence</b>	Lys-Cys-Asn-Thr-Ala-Thr-Cys-Ala-Thr-Gln-Arg-Leu-Ala-Asn-Phe-Leu-Val-His-Ser-Ser-Asn-Asn-Phe-Gly-Pro-Ile-Leu-Pro-Pro-Thr-Asn-Val-Ser-Asn-Thr-Tyr-NH <sub>2</sub>
<b>Purity</b>	>95%
<b>Appearance</b>	White to off-white powder
<b>General Information</b>	Pramlintide is an analogue of amylin, a small peptide hormone that is released into the bloodstream by the $\beta$ -cells of the pancreas along with insulin, after a meal. Like insulin, amylin is deficient in individuals with diabetes.

Pramlintide is an analogue of amylin, a small peptide hormone that is released into the bloodstream by the  $\beta$ -cells of the pancreas along with insulin, after a meal. Like insulin, amylin is deficient in individuals with diabetes. By augmenting endogenous amylin, pramlintide aids in the absorption of glucose by slowing gastric emptying, promoting satiety via hypothalamic receptors (different receptors than for GLP-1), and inhibiting inappropriate secretion of glucagon, a catabolic hormone that opposes the effects of insulin and amylin. Symlin has been approved by the FDA, for use by Type 1 and Type 2 Diabetics who use insulin.[3] Symlin allows patients to use less insulin, lowers average blood sugar levels, and substantially reduces what otherwise would be a large unhealthy rise in blood sugar that occurs in diabetics right after eating. Apart from insulin analogs, symlin is the only drug approved by the FDA to lower blood sugar in type 1 diabetics since insulin in the early 1920s.

Since native human amylin is highly amyloidogenic and potentially toxic, the strategy for designing pramlintide was to substitute residues from rat amylin, which is not amyloidogenic (but would presumably retain clinical activity). Proline residues are known to be structure-breaking residues, so these were directly grafted into the human sequence.

Amino acid sequences:

Pramlintide: KCNTATCATQRLANFLVHSSNNEFGPILPPTNVGSNTY- (NH<sub>2</sub>)

Amylin: KCNTATCATQRLANFLVHSSNNEFGAILLSSTNVGSNTY- (NH<sub>2</sub>)

Rat amylin: KCNTATCATQRLANFLVRSSNNEFGPVLPPPTNVGSNTY- (NH<sub>2</sub>)

References: Ryan GJ (2005) J. Clin. Therap. 10, 0009; Jones MC (2007) Am. Family Phys. 75, 1831;