

Chengdu KaiJie Biopharm Co., Ltd.

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About Author

Chengdu Kaijie Biopharm Co, Ltd. (KJBP) is one of leading peptide manufacturers in Asia. With its highest capacity of production in China and the outstanding quality of peptide products, Kaijie holds a unique position.

Pramlintide

Design and structure

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: KCNTATCATQRLANFLVHSSNNFGPILPPTNVGSNTY-(NH₂)
Amylin: KCNTATCATQRLANFLVHSSNNFGAILSSTNVGSNTY-(NH₂)
Rat amylin: KCNTATCATQRLANFLVRSSNNFGPVLPPTNVGSNTY-(NH₂)

1. US Trade Name: Symlin ,SymlinPen

2. How Supplied

2.1. SymlinPen

Subcutaneous Solution: 1000 MCG/ML

2.2. Symlin

Subcutaneous Solution: 0.6 MG/ML

3. Adult Dosing

Diabetes mellitus type 1, adjunctive treatment : initial, 15 mcg SUBCUTANEOUSLY immediately prior to major meals

Diabetes mellitus type 1, adjunctive treatment : maintenance, titrate at $15\ mcg$ increments to $30\ to\ 60\ mcg$ SUBCUTANEOUSLY as tolerated

Diabetes mellitus type 2, adjunctive treatment: initial, 60 mcg SUBCUTANEOUSLY immediately prior to major meals

Diabetes mellitus type 2, adjunctive treatment: maintenance, 120 mcg SUBCUTANEOUSLY as tolerated

4. Dose Adjustments

Dose titration should occur when no clinically significant nausea has been seen for at least 3 days; if significant nausea persists at the 45-or 60-mcg level (type 1 DM), the dose should be



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decreased to 30 mcg; if significant nausea persists at the 120-mcg level (type 2 DM), the dose should be decreased to 60 mcg

With start of pramlintide, reduce preprandial, rapid-acting or short-acting insulin dosages (including fixed-mix insulins e.g. 70/30) by 50%

5.Mechanism of Action

Pramlintide acetate, an antihyperglycemic drug, acts as an amylinomimetic agent. It is responsible for the modulation of gastric emptying, prevention of the postprandial glucagon secretion, and satiety which leads to decreased caloric intake and potential weight loss.

6.Adverse Effects

Gastrointestinal: Abdominal pain (8%), Loss of appetite (9%), Nausea (28%), Vomiting

Immunologic: Immune hypersensitivity reaction (5%)

Neurologic: Dizziness (6%), Headache (13%) **Respiratory:** Cough (6%), Pharyngitis (5%)