**Novel soluble Amylin formulations for co-injection with Insulin**

**Rationally designed IAPP analogs with improved solubility at physiological pH**

**Background**
Administration of Islet Amyloid Polypeptide IAPP with Insulin (as a separate injection) helps to normalize fluctuating glucose levels to a greater degree than is possible with insulin alone. Unfortunately, human IAPP is extremely amyloidogenic and prone to aggregate, preventing its direct use as an adjunct to insulin therapy. The poor solubility of IAPP drastically increases the cost of IAPP as a therapeutic and limits its effectiveness, (the difficulty of having to give a second injection after an insulin or Leptin injection is a major drawback).

**Technology**
Dr. Dan Raleigh, Professor at the department of Chemistry at Stony Brook University has developed variants of the endocrine hormone islet amyloid polypeptide (IAPP, also known as amylin) which are much more soluble than the wild type peptide and which have been designed to allow them to be co-formulated with insulin to treat type-1 and type-2 diabetes. IAPP is deficient in type-1 diabetes and in the latter stages of type-2 diabetes. This has led to interest in the use of IAPP to treat diabetes. Dr. Raleigh has also shown that these analogs do not aggregate and are not toxic.

**Patent number/Publication:**
- PCT/US2015/028683

**Advantages**
- Enables co-injection with known FDA approved therapeutics, i.e., insulin at physiological pH

**Applications**
- Diabetes
- Therapeutics

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