

## 5<sup>th</sup> World Congress on

# Diabetes & Metabolism

November 03-05, 2014 Embassy Suites Las Vegas, USA

## Gene therapy: Potential towards type- 2 diabetes treatment

**Vineeta Sharma**

Adeno Biosciences, USA

**T**ype 2 Diabetes (T2D) is an epidemic burden. Number of people suffering from diabetes is increasing at an alarming rate. T2D is one of the most prevalent diseases in developed and under-developed countries.

Current therapies for T2D are either direct insulin administration or oral agents that promote insulin secretion. The major drawback of these drugs is frequent clearance from the circulation and hence require daily or frequent intake. Thus, a new treatment that offers a long-term therapeutic effect is sought. One such approach, which might be useful, is gene therapy.

AAV based gene therapy expressing insulin, glucagon-like peptide 1 (GLP-1), exendin-4 and leptin are in progress. Among these insulin based gene therapy is complicated as this not only involves insulin generation but also its modification and release. GLP-1 has a short life span in circulation, hence offers only short-term glycemic control. Alternatively, exendin-4, a GLP-1 agonist is an attractive agent as it has longer life span and offers sustained glycemic control up to weeks.

Leptin insufficiency in the hypothalamus is the primary pathogenesis of diabetes. Leptin gene therapy has shown tremendous results by controlling blood glucose levels, insulin sensitivity and obesity. We believe that leptin gene therapy holds great potential towards T2D treatment.

Although, some obstacles remain to be overcome, gene therapy offers hope for better treatment alternative and possibly a cure for diabetes.

### Biography

Vineeta Sharma has completed her PhD from All India Institute of Medical Sciences. Dr. Sharma has also completed research internship from the University of Michigan, Ann Arbor and a postdoctoral fellowship from Children's Hospital Oakland Research Institute. She is the founder and CEO of Adeno Biosciences, a company focusing on developing gene therapy based treatment for obesity and metabolic disorders. She has published 17 scientific papers in reputed journals and is also the recipient of the American Heart Association Fellowship and many other esteemed awards.

[vineetamolbio@gmail.com](mailto:vineetamolbio@gmail.com)