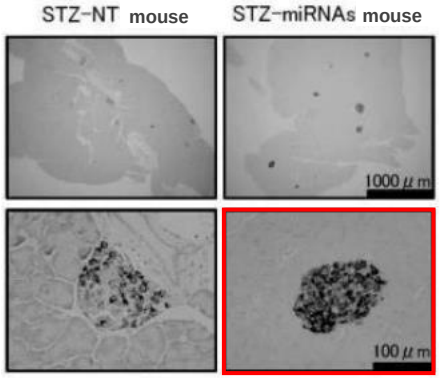
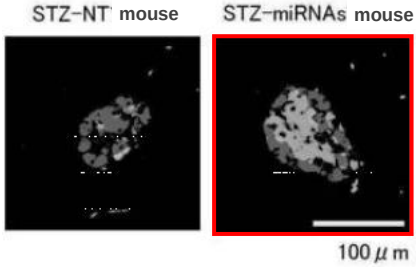
Tohoku Univ. Technology

Nucleic acid molecules that increase insulin-secreting beta cells

New treatment concept for diabetes mellitus





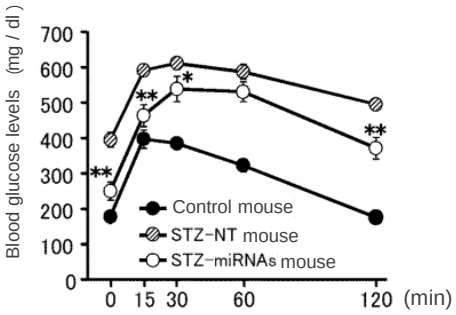
Insulin-secreting β cells were increased by administration of molecules in this invention.

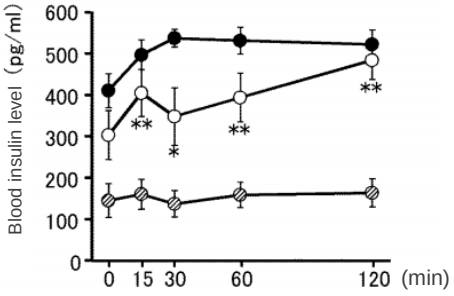
Overview

It has been reported that reduction or deletion of Langerhans β cells (hereafter β cells) in pancreatic islet occurs not only in type 1 diabetes but also in type 2 diabetes. Therefore, regeneration or promotion of β cells has been proposed as a promising treatment for diabetes. Recently, it has been shown that the transplantation of bone marrow cells promotes the proliferation of β cells. However, the mechanism is not clear.

The present invention relates to nucleic acid molecules that promote the proliferation of β cells. Said molecules increased insulin secretion and decreased blood glucose levels in animal model (right figure and related literature) in vivo. In combination with drug delivery systems, it is expected to establish a novel treatment for diabetes.

Decreased blood glucose and increased insulin levels in vivo





Product Application

- Drugs for Type 1/2 Diabetes
- Research and Analysis of the functions of β cells

Related Works

[1] Tsukita S et al. EBioMedicine. 2017 Feb;15:163-172.

IP Data

IP No.	:	JP6799861, PatentNo.10881683(U.S.A)
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