Treatment of Islet Amyloid Formation using Flurbiprofen and Flurbiprofen Derivatives

“Reexamination of the Inhibition of Amyloid Formation using Anti-Inflammatory Drugs”

Background

Amyloid formation by the Islet Amyloid Polypeptide (IAPP) in the pancreatic islets of Langerhans is a characteristic feature of type 2 diabetes. The islet amyloid formation and its toxic intermediates lead to β-cell dysfunction, β-cell death and loss of β-cell mass and now recognized as key events in Type 2 diabetes. Inhibition of the toxic effects of islet amyloid formation and the decline of β-cell mass has become a crucial target in maintenance of glucose homeostasis and prevention of disease progression. Current treatment for T2D diabetes mainly involve glucose control and there are no clinically approved drugs limiting the decline of β-cell mass.

Technology

Here, Professor Dan Raleigh, Professor in the Department of Chemistry and The Institute of Chemical Biology & Drug Discovery at Stony Brook University has shown that Flurbiprofen and Flurbiprofen derivatives can protect β-cells from amyloid induced toxicity thereby preventing β-cell dysfunction and β-cells death. This novel use of Flurbiprofen can be a non-toxic therapeutic for the treatment of inflammation and amyloid based diseases such as Type 2 diabetes.

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Advantages

- Flurbiprofen has the significant advantage that it has already been shown to be safe in humans.

Applications

- Diabetes
- Therapeutics

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