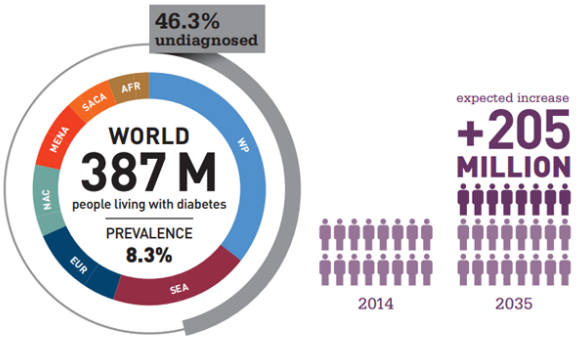
A novel diabetes drug screening model: Protecting the β cell in type 2 diabetes

Type 2 diabetes : A growing unmet medical need

Type 2 diabetes (T2D) is a rapidly growing patient market. There are an estimated 387 million people living with diabetes, which is predicted to grow to 500 million over the next 20 years



Diabetes Altas, 2014

The case for a new drug class in T2D

Early stage type 2 diabetes (T2D) consists of poor glycemic control caused by insulin resistance. During early stage T2D disease can by controlled by lifestyle intervention and several glycemic control drugs.

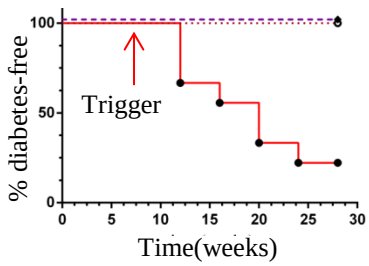
20-30% of patients progress to β cell-deficiency. At this stage, glycemic control drugs become ineffective, and morbidity/mortality results.

A new class of T2D drugs is needed. The ideal drug would be given lifelong to all T2D patients to protect β cells.

A new model for screening anti-T2D drugs

The key impediment in searching for new T2D drugs is that existing animal models are based on the first disease stage (glycemic control).

We have developed a **new mouse strain** that reliably models the second stage of disease: β cell decline



A way forward for T2D

Our novel mouse model is rapid, reliable and sensitive to treatments, allowing screening for anti-diabetogenic drugs that prevent β cell decline.

Clinical trials of identified drugs can use serum C-peptide levels as a biochemical indicator for efficacy in preventing β cell decline

A new class of type 2 diabetes drugs would:

- Target a cohort of 300+ million and growing
- Require no additional diagnostics
- Prevent the high morbidity/mortality stage of T2D, reducing medical costs by >75%
- Complement existing drugs by extending their utility phase

Screening model developed by Adrian Liston
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JDRF IMPROVING LIVES. CURING TYPE 1 DIABETES.