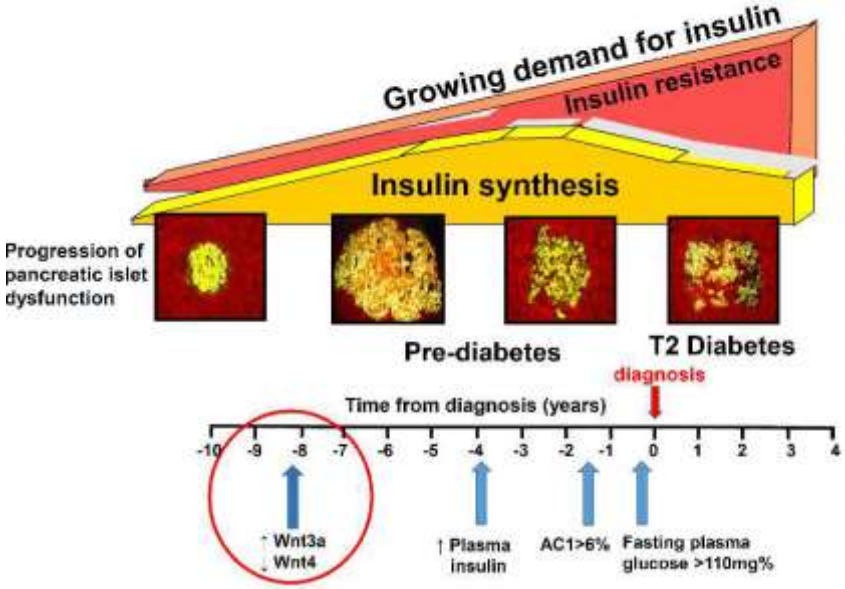
PreT2D Sensor – early detection of insulin resistance or pre-diabetes in Type 2 Diabetes

Problem

Type 2 diabetes develops well before the onset of clinical symptoms. It is estimated that the current diagnosis of type 2 diabetes is made almost 10 years after the onset of changes, when it is generally **too late for any prophylactic treatment**. Up until now, there was no available test that would allow easy and inexpensive **early diagnosis** of insulin resistance or pre-diabetes. Currently used tests are expensive and therefore are not performed during routine medical tests or require specialist equipment available only in specialized clinics. There is therefore a **market need for cheap and widely available tests to enable early diagnosis of type 2 diabetes at the very beginning of its development**, enabling early prevention and therapeutic actions, and minimizing the effects of this disease.

Solution

PreT2D Sensor will enable **earlier (approximately 5-10 years) detection** of insulin resistance compared to current methods. The invention is based on our novel unique idea for the diagnosis of insulin resistance or very early pre-diabetes by determining the **concentration of Wnt3a and Wnt4 proteins in blood samples** submitted for patent protection as P.411390 (2015) and PCT/IB3026/051087 (2016).



Our needs

1. Tool has been validated *in vitro* and on animal models in various types of type 2 diabetes. **We are currently looking for a business partner to validate the test in humans**
2. We are also looking for the **investor** to commercialize the product involving further **product development** and **launching it to diagnostic testing market**

Project Principal Investigator

Agnieszka Dobrzyń, Prof. – Full Professor of Biochemistry & Molecular Biology,

Head of the Laboratory of Cell Signaling and Metabolic Disorders at Nencki Institute, co-author of more than **80 scientific publications (H=27)** and **2 patents**. A member of the Committee of Molecular and Cellular Biology, Polish Academy of Sciences and European Molecular Biology Organization (EMBO) YIP. Focused on **signaling pathways** and molecular mechanisms of **gene expression regulation** involved in pathogenesis of **type 2 diabetes**. Principal Investigator of several Research Grants financed by Polish (NCN, FNP, MNiSW) and European (EC H2020, EMBO) agencies, and R&D project (STREGMED) funded by NCBiR. In 2016 Prof. Agnieszka Dobrzyń has been awarded by the Minister of Science of Higher Education the very prestigious **Award for Outstanding Scientific Achievements.** More information: http://team.nencki.gov.pl/

About Nencki Institute

The Nencki Institute of Experimental Biology of the Polish Academy of Sciences is the largest non-university biological research center in Poland. High quality of research, excellent publication record, and strong international links place the Nencki among the leading biological institutions of Central and Eastern Europe. The main focus of Institute's research relates to novel therapies and diagnostic methods in diabetes, neurodegenerative diseases, neurological disorders, cancer and other diseases of modern civilization. The Nencki Institute also provide a wide range of services including preclinical trials, dermo-cosmetology studies, genetic engineering, transgenic animals production and biological imaging from electron microscopic to MRI levels. We appreciate the existing collaborations and **we are open to new cooperation with industrial entities to bring novel products to the pharmaceutical, biomedical and biotechnological market**.

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