Model openbare samenvatting FND-Innovatieproject

SenterNovem

Projectgegevens

Penvoerder: Podiceps BV

Partners: U-Protein Express BV

Projecttitel: Biomarkers for Healthy Food

Startdatum project: 01-01-2009   Einddatum project: 31-12-2010

Fase project: start

Samenvatting project

Major research investments in nutrigenomics have provided exciting new avenues for improved understanding of the relation between nutrition and health. In order to capitalize on these developments, there is a need to translate these huge amounts of know-how and data into usable technology for the food industries. At the applied industrial level the ambition is to demonstrate that indispensable phenotype information from human intervention studies can be extracted and thereby the development of new food products with substantial health benefits can be facilitated. Product innovation and claim substantiation is essential for the Dutch food industry to stay competitive and profitable in a global market.

The extraction of candidate biomarkers and the development of suitable assays that will be validated in human intervention studies enabling the Dutch food industries to examine and support their health claims in particular related with obesitas, is the key objective of this project.

There exist outstanding new opportunities for biomarker identification or validation that also emerge from close collaboration with a number of unique initiatives in the Netherlands. Podiceps BV and U-Protein Express BV) in collaboration with the TI Food & Nutrition have been able to extract from existing and extended databases on nutrition and health that were mined by means of smart query strategies to discover new relationships between genes and dietary components from primarily mouse dietary intervention studies, a list of about 10-15 possible biomarker candidates that might be predictive for a pre-diabetic condition or other obesitas related disorders. In this project, we will translate the list of putative mouse biomarker mRNA sequences into human proteins, and develop assays to measure them preferably in blood, faeces or urine. Subsequently, we will validate these biomarker assay with both mouse and human nutritional intervention studies in collaboration with TIFN and the Nutrigenomics Consortium. In addition, we study samples obtained from for example LifeLines samples from (pre)diabetic individuals.

At the end of this 2 year project, we expect that we will have a number of validated biomarker assays that have been studied in human intervention studies in place that suit the need for the Dutch food companies as well as others to examine their new and existing food ingredients for their health effects.