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International Life Sciences Institute

ILSI Europe Scientific Portfolio

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Biomarkers & Functional Effect Measurements

Overall, a balanced diet should provide sufficient nutrients to meet the metabolic requirements of an individual. But there can be additional benefits – physiological and psychological effects which go beyond the widely accepted nutritional ones. Biomarkers are used to measure these effects.

BIOCHEMICAL AND IMMUNOLOGICAL MARKERS OF NUTRITION

One of the main reasons why many health claim dossiers are rejected is the lack of scientific evidence on validated markers to prove the potential health effect being claimed. Also, markers are essential to investigate nutritional and disease status.

Glycaemic Exposure Markers in the Non-Diabetic Population

Foods or ingredients proven to reduce blood glucose levels could be beneficial for consumers, including those with impaired glucose tolerance. Experts and policy makers agree that one measure, haemoglobin A1c (HbA1c), is a good marker to evaluate blood glucose levels over a longer time period. HbA1c requires several months to be assessed and is only adapted for diabetic patients, but is not for non-diabetic persons. The aim of this project is to find markers of blood glucose levels that are more responsive (speed, sensitivity and selectivity) to foods and diets, and are relevant for non-diabetic persons.

Status: Manuscript in preparation

Markers of Insulin Sensitivity & Secretion

Markers to test for the presence of diabetes in diabetic people are well-known and well-established. However, as yet there are no markers that can indicate the risk of diabetes in people who do not have diabetes yet. This activity examines insulin secretion and sensitivity as indicators of diabetes risk, and reviews all types of markers for these functions, focusing on glucose tolerance, insulin sensitivity and beta-cell function. Additional advantages include that there could be non-invasive ways to measure these, minimising stress for the patient, and that there is faster detection of diabetes risk to prevent future onset of this disease.

Status: Manuscript in preparation