Technology Snapshot

The Promarker™ platform

Proteomics International's proprietary technology identifies the proteins that give insight into disease.

Biomarker discovery

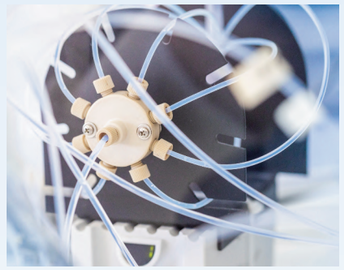
The human body contains an estimated 20,203 genes coding for proteins. However, there are multiple levels of regulation and modification between reading a gene and producing the final protein product. As a result, over 200,000 proteins are predicted to co-exist in the human body, interacting in a complex network.

Proteomics International uses its Promarker™ platform to identify biomarkers - protein 'fingerprints' associated with disease. These biomarkers can be used to diagnose medical conditions, or predict whether a person will develop a disease in the future.

How the Promarker™ platform works

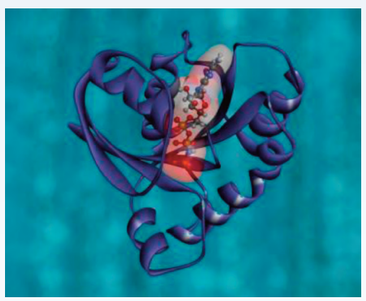
DISCOVERY

Blood samples are collected from patients with and without a disease, such as diabetes or endometriosis.



The proteins in the blood samples are analysed using a mass spectrometer. This instrument is able to find and measure specific low-abundance proteins in a complex sample, comparable to finding one specific person hiding amongst the 7.8 billion people on earth.

Mass spectrometry works by detecting the size of particular proteins, fragmenting the protein into smaller pieces, and then analysing the pieces based on their mass. The mass spectrometer can identify whether particular proteins are present, and how much of them are in each sample.



The samples from people with the target disease are compared to those without the disease. In some cases, protein 'fingerprints' associated with the disease can be identified. These are called biomarkers.

PROOF OF CONCEPT

The effectiveness of the biomarkers as a test for the target disease are verified in a follow up study. Those biomarkers that prove to be stable and readily detectable are used to develop a test for the disease.

CLINICAL STUDY

The biomarker test is validated in a much larger clinical cohort, enrolling more than 500 people with the target disease.

A successful test that can accurately predict or diagnose disease is an innovative tool enabling the improved treatment of disease.

Changing lives

The Promarker™ platform's strength lies in its ability to be applied to any condition - from chronic health conditions including diabetes, cancer and Alzheimer's disease to acute diseases such as bacterial and viral infections.

Promarker™ technology has already been used to develop the PromarkerD test for predicting diabetic kidney disease, which is being commercialised around the world. Proteomics International is currently researching multiple biomarkers as part of its Promarker™ pipeline. For more information, see the Diagnostics section (page 18).

Post-validation, biomarker tests are commercialisation-ready, helping to create a world where disease is detected early and cured simply.

PromarkerD
CHANGING LIVES

PromarkerD

Proteomics International's PromarkerD test searches for proteins in the blood associated with diabetic kidney disease. The test uses a panel of three biomarkers, combined with clinical factors, to predict the onset of the disease up to four years in advance.