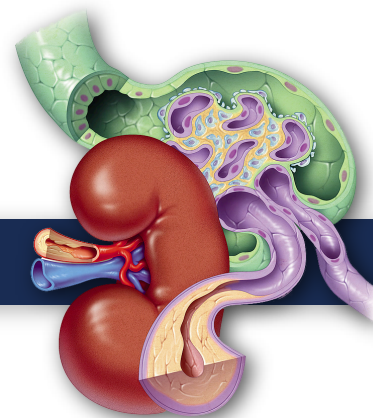




Proteomics International

## Validated diabetic nephropathy biomarker portfolio

Australian drug discovery company Proteomics International has applied their proteomics biomarker expertise to patient samples from the Australian landmark epidemiological *Busselton Health Study* to identify and analytically validate 13 biomarkers for a significant complication of diabetes - diabetic nephropathy. ***The company now has a robust intellectual property portfolio available for partnerships to further qualify and commercialize the patented biomarkers.***



### Discovery and validation approach

The protein biomarker discovery and validation approach included the analysis of pooled plasma samples for differential protein expression, i.e. proteins that are found at different levels in the diabetic disease state relative to the normal diabetic state.

***Candidate biomarkers were identified*** using 2D-chromatography and MALDI TOF/TOF mass spectrometry.

Proteins identified in the discovery phase were then ***validated*** on individual patient plasma samples using the advanced mass spectrometry technique Selected Reaction Monitoring (SRM/MRM). Statistical data analysis of the validation phase identified 13 putative protein biomarkers for diabetic nephropathy across the studies, *including proteins involved in metabolism, inflammation and oxidative stress.*

When searching for biomarkers the challenges are to obtain detailed individual data to ***remove potentially confounding variables*** when looking at associations. The strength of the Busselton Health Study is the wealth of retrospective clinical and laboratory information on top of the comprehensive analytical data.

### Accredited proteomics laboratory



Quality is Assured

**Proteomics International is the only company globally to achieve laboratory accreditation to International Standard ISO/IEC 17025:2005 for provision of proteomics services.**

***This strengthens the company's position to deliver drug development data that is of the highest scientific integrity.***

### About the company

Proteomics International is both a *drug discovery company and contract research service provider*, focused on sophisticated analysis for the biological research market. The company combines the most advanced high throughput mass spectrometry instrumentation (MALDI TOF-TOF and LC-MS/MS) and a team of qualified scientists with proven expertise in protein and peptide chemistry.

**Proteomics International has self funded \$5 million to-date for research and development into two focal research activities:**

- ▶ ***New peptide drugs from venoms and***
- ▶ ***The discovery and use of biomarkers***

***Both analyses build upon its proprietary transformative Bioven process.***

In addition to the recent biomarkers for diabetic kidney disease findings, Proteomics International is *investigating protein biomarkers for parasitic infections and Alzheimer's disease*. Provisional patents have been lodged for 13 biomarkers to be used as diagnostic tools or new drug targets.

*The company is at the leading edge of protein analysis with several of its publications achieving best in class levels of sensitivity (<http://www.proteomics.com.au/publications.aspx>).*

Skills developed from these research programs are incorporated into the sophisticated suite of specialist contract research techniques provided to clients. High quality, quick and affordable protein identification, analytical and characterization services are routinely provided. Proteomics International is a privately operating company based in Perth, Western Australia and has established itself as an industry leader in the delivery of contract research and lead molecule discovery in the Asia Pacific region.

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*Dr Lipscombe is a protein chemist expert in analyzing bio-molecules using proteomics techniques.* He has extensive expertise in chemistry, immunology, mass spectrometry, Edman sequencing, peptide synthesis, high performance computing and robotics. Richard has international competence gained over a 25-year period in Australia, USA and the UK, including work in hospital and academic laboratories and commercial organizations. He completed his chemistry degree (MA) at Oxford University, his *PhD in immunology at London University* and was a Post-Doctoral scientist (molecular immunology) at Australia's Telethon Institute for Child Health Research. After managing the Protein Analysis Facility at the University of Western Australia, he co-founded Proteomics International in 2001. Richard is well published in peer review journals, is Director of the Biomarker Program (WA Center of Excellence for Food and Genomic Medicine) and actively serves on the management committee of the Australian Proteomics Computational Facility.