



Using natural products for next-generation tissue repair

IRL's revolutionary platform of novel bioactives has wide-ranging applications involving natural products in tissue repair and chronic wound healing.

Our proprietary bioactives interact with and control the physiological processes involved in wound healing and offer cost-effective wound healing alternatives to current high-cost technologies. By identifying compounds that target multiple aspects of each phase of wound healing, a product can be formulated to assist throughout the healing cascade.

Demonstrated ability

- ▶ Identification of a cryptic protein that supports blood supply to wounds
- ▶ Identification of several novel phytochemicals with bio-activity including cranberry juice antimicrobials, passion fruit anti-asthmatic and grapefruit pro-angiogenic compounds
- ▶ Experience with N-acyl ethanolamines – natural long chain fatty amides which may act as signalling and cell-protective molecules.

We also have experience in related areas such as enzymatic processing, fermentation and pilot scale bioreactors, and production of high-value lipids.

Key expertise

- ▶ Bioactives identification (expertise in protein/peptide, flavonoid and polysaccharide-based bioactives relating to wound healing and tissue repair)
- ▶ Extracellular matrix scaffolds for tissue regeneration
- ▶ Assay development and consultancy
 - Tissue scaffold analysis
 - GAG analysis (HA, CS, HS and Heparin)
 - ELISA quantification of growth factors and cytokines
 - Extraction and analysis of elastin, collagens and matricellular proteins
 - Extracellular matrix protein (ECM) isolation and analysis
 - Amino acid analysis
 - Peptide sequencing LC-MS/MS
 - Enzyme assays relevant to wound care
- ▶ Product analysis and independent testing
- ▶ Formulation development and medical device prototyping
- ▶ Bioactive enzymatic modification to improve bio-availability and efficacy
- ▶ Lipid analysis
- ▶ Medical device regulatory pathway 510(k).

Business background

IRL is a commercial R&D company with the New Zealand Government as the sole shareholder. We conduct both collaborative and contract R&D with the aim of commercialising technology and working with key business partners to establish high value industries.

For all enquiries please contact the Industry Engagement team on 0508 CALL IRL (0508 225 5475). If calling from overseas phone +64 4 931 3000 or visit the *Contact Us* page on our website.

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