



Pilot-scale fermentation and production of metabolites from microbial systems

Industrial Research (IRL) is involved in research, development and the production of **natural products, intermediates and metabolites**, in particular the production of **high value lipids**, using **fermentation processes**.

We are experienced in the fermentation of a wide range of microbes such as *Bifidobacterium*, *Streptomyces*, and lipid-bearing microorganisms including marine and other bacteria, yeasts, algae and fungi. Our downstream processing facilities allow for recovery using supercritical or solvent extraction.

Key expertise

- ▶ Cell bank preparation and validation
- ▶ Fermentation optimisation and development
- ▶ Downstream processing optimisation and development
- ▶ Process scale up and validation
- ▶ Microbial strain development
- ▶ Fermentation of lipid-bearing microorganisms
- ▶ Fermentation of marine organisms
- ▶ In-situ adsorption resin technology.

Focused capability

We have an extensive fermentation facility with the ability to ferment both aerobic and anaerobic microbes from shake flasks up to 1500L. Our PC2-LS facilities allows for the large scale fermentation of risk group 2 and recombinant microbes.

Our pilot scale photosynthetic bioreactor allows for the continuous production of microalgae.

In-house NMR, HPLC, GC, GC-MS and LCMS facilities allow us to provide material that meets client specifications for identity and purity.

Organic solvent, aqueous and supercritical fluid extraction processing options allow for an extensive range of metabolites to be extracted and purified to meet your requirements.

Business background

Industrial Research 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. Our fermentation capability can be used to generate a new range of nutraceuticals, cosmeceuticals, probiotics, aquaculture feeds and biofuels.

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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