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Human health and performance products industry in New Zealand

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In this document:

- **Overview**
- **Fast facts**
- **International innovations**
- **International collaborations**
- **Industry contacts**

Overview

Biotechnology research is attracting massive investment as the world wrestles with complex medical riddles like cancer, infertility and neurological disorders.

New Zealand biotechnology companies focused on human health and performance have given rise to a number of world-leading products and innovations, which are yielding answers.

Early detection is a major factor in determining the success of cancer treatments. New Zealand company Pacific Edge Biotechnology has developed novel diagnostics and prognostic tools for cancer, including gastric, bladder, endometrial, colorectal cancers and melanoma. Several of the company's developments are now in clinical trials.

Another New Zealand company making significant discoveries for cancer treatment is Genesis. Genesis has built a broad therapeutic development platform targeting immune disorders and cancer. It is focusing on developing RNAi therapeutics, a breakthrough gene silencing technology, to target the growth and drug resistance of cancer cells.

Genesis has taken three products to phase II clinical studies in collaboration with a number of international companies including Immunex (now Amgen) and Corixa (now GSK).

Fast facts

- Around one-third of New Zealand's public research effort in biotechnology is in health.
- Of the 106 core biotech companies in New Zealand, one-third target human therapeutics.
- There are more than 130 drugs being developed in New Zealand by 13 organisations. Of these, 13 percent are for the treatment of cancer and more than 10 percent are already in clinical trials.



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- The market for molecular diagnostics for cancer is anticipated to total US\$9.8 billion by 2016.

International innovations

Living Cell Technologies (LCT)

LCT implants healthy cells to treat conditions such as type 1 diabetes and neurological disorders. It received the world's first xenotransplantation lab accreditation, allowing its test reports to be accepted in 49 countries. LCT has begun clinical trials of pig cell transplantation therapy to regulate blood glucose levels in Russia.

CoDa Therapeutics

CoDa's focus is wound care and tissue repair. Its lead product, Nexagon™, has been shown in numerous preclinical studies and a range of human compassionate uses to dramatically improve the body's ability to repair damaged tissue. Following a US FDA review and Medsafe approval, CoDa initiated two phase I clinical trials in New Zealand for Nexagon™.

The first trial is with patients following laser eye surgery and the second is to assess use on skin wounds in healthy human volunteers. More clinical trials are being planned, including phase II trials to evaluate the use of Nexagon™ to help heal chronic skin wounds and persistent epithelial defects in the eye.

Innate Therapeutics Limited

Innate Therapeutics Limited, previously known as Virionyx, is now focused on the human trialling and applications of MIS416, which has shown promising activity in preclinical proof-of-principle studies in cancer, infectious and autoimmune diseases. The company plans to initiate a phase I human safety study with MIS416 in New Zealand within the second quarter 2009, and, if positive, will pursue phase II trials in cancer in 2010.

New Zealand Pharmaceuticals (NZP)

NZP, formed in 1971, extracts and purifies biochemicals from by-products of New Zealand's meat processing industry. By-products include cholic acid extracted from bile that is used in vaccine manufacture, drug delivery and as diagnostic ingredients. In 2007, NZP opened a new manufacturing facility, expanding its capability into the production of synthetic derivatives of the bile acids, carbohydrates and other compounds. NZP won an export award in 2007.

International collaborations

Neuren Pharmaceuticals

Neuren Pharmaceuticals is a biopharmaceutical company developing novel therapeutics in the fields of brain injury, neurological conditions, and metabolic disorders. Neuren's lead compound, Glypromate, has completed



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recruitment in a phase III trial looking at its ability to reduce brain impairment following coronary artery bypass graft surgery.

NNZ-2566, an analogue of Glypromate, is being developed in partnership with the United States Army for the treatment of traumatic brain injury. Neuren also plans to initiate a phase IIb trial for Motiva, another of its clinical molecules, to treat psychiatric symptoms post stroke.

KODE Biotech

KODE Biotech's KODE™ technology has the ability to non-toxically modify the surface characteristics of membranes by the attachment of carbohydrates, peptides and proteins. The technology to modify red cells has been licensed to international companies CSL and Immucor Gamma.

KODE Biotech's work on Assisted Reproductive Technologies secured a partnership with Medicult and it is currently seeking new licensees for its proprietary platform technology in other fields.

Industry contacts

Foundation for Research, Science and Technology

The Foundation for Research Science and Technology (FRST) is a Crown entity which invests in science and technology research on behalf of the government, seeking benefits to New Zealand's economy, environment and society.

Ministry of Research, Science and Technology

The Ministry of Research, Science and Technology (MORST) manages the government's research, science and technology investment; provides policy advice and encourages innovation and commercialisation of scientific and technological knowledge and ideas.

Natural Products New Zealand

Natural Products New Zealand's mission is to raise New Zealand's profile as a source of quality natural products and complementary health products, and foster the development of a sustainable natural products industry.

New Zealand Trade and Enterprise

New Zealand Trade and Enterprise (NZTE) is the government's national economic development agency.

NZBio

NZBio is an incorporated society representing the New Zealand biotechnology sector.

NZTE Medical Technologies

An NZTE website with useful information and resources related to health technologies.



NEW ZEALAND

[Medical Industry Association of New Zealand](#)

The Medical Industry Association of New Zealand represents the interests of manufacturers, importers and distributors of medical devices, diagnostic reagents and dental products.

[The Health Research Council of New Zealand](#)

The HRC is the Crown agency responsible for the management of the Government's investment in public good health research.