

UQ probiotics innovation boosts health benefits of milk and juice

16 January 2012

Researchers at [The University of Queensland \(UQ\)](#) have developed the world's first non-fermented, multi-strain probiotic milk and juice, which aims to offer more health benefits from consuming fortified juice, milk and other calcium-rich dairy products.

UQ's main commercialisation company, [UniQuest](#), has formed Progel Pty Ltd to commercialise the novel food processing technique invented by Professor Bhesh Bhandari from UQ's School of Agriculture and Food Sciences.

With a \$250,000 Commercialisation Australia grant, Progel is developing a range of new functional milk and juice products with levels of probiotics and omega-3 not currently available in milk and juice products. The innovative technology uses only safe food ingredients including alginate, commonly used in ice cream. Alginate is derived from seaweed and is sustainably harvested.

"Adding probiotics to commonly consumed products like milk and juice can improve gut health and digestion, and help lessen the effects of lactose-intolerance for milk consumers. However, these products with probiotics tend to go sour within days," explained Professor Bhandari.

"Meanwhile, residual smell and taste are common in food products fortified with fish-based omega-3 oils, even though existing products only have small amounts and therefore fewer health benefits.

"Products made possible by the Progel technology will bring the many health benefits of probiotics and omega-3 to consumers who do not regularly consume dairy products. Progel ingredients also include calcium, giving juices many of the benefits of dairy products, such as yoghurt.

"The key advantage of Progel ingredients is that they don't affect the quality, taste or smell of the milk, and products containing the Progel encapsulation technology can offer sufficient levels of active nutrients to provide a beneficial source of probiotics and omega-3 to consumers," Professor Bhandari said.

UniQuest Managing Director, David Henderson, said the Commercialisation Australia grant will help Progel develop new prototype functional food products in partnership with food and ingredient manufacturers, who will be evaluating the technology for commercial viability.

"Milk is a major source of nutrition for many world populations. With the opportunity to develop into a successful product range, the Progel technology could become another 'world-first' from an Australian university research and industry partnership, impacting positively on communities world-wide, as well as boosting local and international dairy food markets," Mr Henderson said.

The healthcare-based applications for Progel's encapsulation technology are among several commercial-ready innovations UniQuest will be promoting at the invitation-only JP Morgan Global Healthcare Conference in San Francisco this week. The four-day conference is one of the industry's largest and features presentations by some 300 private and public companies.

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[About UniQuest Pty Limited](#)

Established by The University of Queensland in 1984, UniQuest is widely recognised as one of Australia's largest and most successful university commercialisation groups, benchmarking in the top tier of technology transfer worldwide. From an intellectual property portfolio of 1,500+ patents it has created over 60 companies, and since 2000 UniQuest and its start-ups have raised more than \$400 million to take university technologies to market. Annual sales of products using UQ technology and licensed by UniQuest are running at \$3 billion. UniQuest now commercialises innovations developed at The University of Queensland and its commercialisation partner institutions: the University of Wollongong, University of Technology Sydney, James Cook University, University of Tasmania, Mater Medical Research Institute, and Queensland Health. UniQuest also provides access to an expansive and exclusive network of independent academics to tailor a consulting or project R&D solution to meet the diverse needs of industry and government, facilitating some 500 consulting, expert opinion, testing, and contract research services each year. UniQuest is also a leading Australasian provider of international development assistance recognised for excellence in technical leadership, management and research. Working with agencies such as AusAID, NZAID, the Asian Development Bank and the World Bank, UniQuest has developed and implemented more than 400 projects in 46 countries throughout the Pacific, South-East Asia, the Indian sub-continent and Africa.

[About the Progel technology](#)

Progel is a low-cost, bulk micro-gel encapsulation method. It can be applied to a number of encapsulation systems which are based on fast cross-linking reactions of polymers. The research has demonstrated that different classes of actives can be microencapsulated with this technology, including living cells, large and small molecules and oils. The encapsulation process

protects the active in a simulated acidified stomach environment, and releases the active in a simulated intestinal environment. Progel particles are undetectable to humans, yet protect a range of ingredients and pharmaceutical products from the acidic stomach environment. The particles may be used for oral, pulmonal, ocular, or topical delivery. Applications include functional foods, pharmaceutical formulations, cosmetics, agriculture, and aquaculture. The technology is particularly suited for the protection of actives in aqueous environments.

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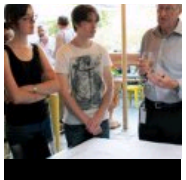
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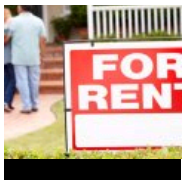
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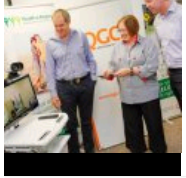
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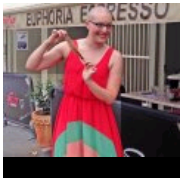
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