



Australian Centre for Complementary Medicine

EDUCATION & RESEARCH

Seaweed extract hailed as a promising natural medicine

A natural seaweed extract – which might help protect against inflammatory conditions such as inflammatory bowel disease and arthritis and assist in the breakdown of dangerous blood clots – is being studied by Southern Cross University researchers.

The research is being conducted on behalf of the Australian Centre for Complementary Medicine, Education and Research (ACCMER*).

Professor Stephen Myers, head of Southern Cross University's NatMed Research Unit and ACCMER Research Fellow, said the studies, being done at the University's Centre for Phytochemistry and Pharmacology, had far-reaching potential in the rapidly expanding world market for nutraceuticals.

Nutraceuticals are natural compounds taken to promote good health and fight disease, as compared to pharmaceuticals, which are generally drug-based treatments.

Professor Myers recently gave the opening address at the launch of a new Tasmanian seaweed processing plant which harvests and refines the seaweed. The plant is owned by Marinova, a Hobart biotechnology company. The research is being undertaken on behalf of the company.

“Fucoïdan, the seaweed extract being processed by Marinova, has some very exciting properties which could lead to many medicinal uses,” Professor Myers said.

“Research shows it has broad-spectrum anti-viral properties, including against the HIV and herpes simplex (cold sore) viruses as well as tumour inhibiting properties.

“It also has cholesterol-lowering and anti-inflammatory properties and the ability to dissolve blood clots, so it has many potential uses in promoting cardiovascular health.

“There is already some epidemiological and animal evidence on its efficacy and at Southern Cross University we are involved in laboratory tests to further advance this research.

“The results are strong enough to warrant human clinical trials as the next step to prove its value as a medicinal product.”

Marinova business development manager Nick Falk said the company had begun harvesting the seaweed in 1998 off the Tasmanian east coast. The seaweed species, *Undaria Pinnatifida*, was not native to Australia but had arrived in the bilge water of foreign ships and was considered a noxious weed. However the same species is highly prized in Asia as wakame, an ingredient in foods such as miso soup.

“Over the last 15 years, with the observation that seaweed eating populations show lower rates of cancer, HIV and inflammatory conditions, there has been an increase in investigational and clinical trial activity focused on fucoidans,” Mr Falk said.

“Marinova has its own research and development program and our work stems from the existing body of fucoidan research.

“Following the completion of our new proprietary extraction facility in Tasmania, Marinova has the capacity to develop fucoidans at a higher purity than any of our competitors.”

Mr Falk said the company had been introduced to a major US-based international commercial partner by ACCMER and the extract was now being used extensively in many of their health products.

He said the extract provided health benefits similar to the cardiovascular drug heparin without any of its known serious health risks.

He hoped the research work at Southern Cross University would continue to provide evidence for the efficacy of the extract and lead to its use in many more nutraceutical and cosmetic products.

“Fucoidans are polysaccharides and naturally occurring components of certain edible seaweeds and echinoderms. They have been part of the human diet for centuries and in countries such as Japan and Korea, are prized for their dietary and medicinal properties,” Mr Falk said.

“The term fucoidan describes a diverse family of molecules rather than a single chemical compound. Each type of brown marine algae or echinoderm yields a specific fucoidan, and each fucoidan varies in its clinical benefit.

“Our primary interest in fucoidans stems from their ability to act as immunomodulators, selectin antagonists, viral attachment inhibitors, enzyme inhibitors and receptor blockers. Fucoidans and their derivatives demonstrate considerable anti-viral, anti-coagulant and cholesterol lowering activity.

“Through extraction and fractionation, these naturally occurring molecules can be utilized as high efficacy targeted therapeutics.”

* The Australian Centre for Complementary Medicine Education and Research (ACCMER) is Australasia’s leading centre for evidence-based research and post-graduate education in complementary medicine.

ACCMER is a joint venture between the University of Queensland and Southern Cross University, establishing a world first collaboration between conventional and complementary medicine.

**Media contact: Zoe Satherley, Southern Cross University media officer,
02 6620 3144, 0439 132 095.**