



## **Will bitter melon in a bottle live up to its promise?**

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Diabetes researchers at Sydney's Garvan Institute of Medical Research have received nearly \$300,000 in Commonwealth funding to advance their research into potential therapeutics derived from bitter melon, a vegetable and traditional Chinese medicine.

The funding, made available through the International Science Linkages (ISL) program, was announced last week by Senator Kim Carr, Minister for Innovation, Industry, Science and Research.

Eighteen projects from across Australia were supported by the Australia-China Special Fund for Scientific and Technological Cooperation, a component of ISL that funds collaborative scientific research projects involving Australian and Chinese researchers. Garvan will continue its association with the Shanghai Institute of Materia Medica.

Teams from the two organisations have already extracted several very promising bioactive components from bitter melon. The compounds appear to activate the enzyme AMPK, a protein well known for regulating fuel metabolism and enabling glucose uptake, very important factors in the treatment of Type 2 diabetes.

Professor David James, Head of Garvan's Diabetes and Obesity Program, says the grant money will allow his team to do fundamental follow up work on the bitter melon research published last year. "Our ultimate goal is to conduct a clinical trial to determine whether or not the compounds we identified in bitter melon are effective as therapies for Type 2 diabetes," he said.

"There is still quite a bit of preliminary work to be done before we can begin clinical trials. The molecules we've identified are very complex in their structure – and so far we've been unable to completely synthesise them in the test tube. We're actually trying to make a simplified version that still retains its biological activity."

"In collaboration with our colleagues in Shanghai, we're collecting bitter melon from different geographical locations. We've already observed that the concentration of what we believe to be the active ingredients differs dramatically depending on where the vegetables are grown."

"Of course, that means you can't just tell people to go down to the local greengrocer and buy bitter melon to help their Type 2 diabetes, because we cannot guarantee that every bitter melon is the same."

"What we have to do is capture the ingredients from the best crops of bitter melon and bottle them. Then we'll go to clinical trials."

## **ABOUT GARVAN**

The Garvan Institute of Medical Research was founded in 1963. Initially a research department of St Vincent's Hospital in Sydney, it is now one of Australia's largest medical research institutions with nearly 500 scientists, students and support staff. Garvan's main research programs are: Cancer, Diabetes & Obesity, Immunology and Inflammation, Osteoporosis and Bone Biology, and Neuroscience. The Garvan's mission is to make significant contributions to medical science that will change the directions of science and medicine and have major impacts on human health. The outcome of Garvan's discoveries is the development of better methods of diagnosis, treatment, and ultimately, prevention of disease.

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