



THE VICTOR CHANG  
CARDIAC RESEARCH INSTITUTE

## MEDIA RELEASE

Embargoed until 10am  
Wednesday 7 September 2005

### **Flat worms hold the key to regeneration?**

Imagine a world where all you had to do to reproduce was to split in half and regenerate into two beings. You'd be forgiven for thinking that it sounds like a freaky science fiction plot, but that's exactly how the tiny flatworm reproduces.

Scientists are now on a mission to unlock the flatworm's powers, in the hope to understand how regeneration works and how it could one day be triggered in humans to fight degenerative disease affecting tissues, such as heart muscle diseases, that have little or no ability to regenerate.

Dr Kiyokazu Agata, from the Centre for Developmental Biology, Japan, has been studying the fascinating and tiny flatworm, known as *planaria*, to better understand the mechanisms underlying its amazing regenerative powers.

He has found that specialized stem cells permanently reside in tissue all over the flatworm's body. When the flatworm splits in half, the stem cells are triggered to start on their pathway to specialization. Dr Agata found that the stem cells have the ability to turn into all the different kinds of cells and tissue needed to make an entire individual. Ultimately two genetically identical flatworm twins are regenerated.

Dr Agata will be presenting his results on studies into the regenerative powers of the flatworm, during the 15<sup>th</sup> International Society of Developmental Biologists Congress in Sydney in early September, organised by scientists at the Victor Chang Cardiac Research Institute.

For more information and to arrange access to Dr Agata's talk and an interview with him at the Congress, please call Samantha Lucia - Communications and Marketing Manager - VCCRI on 02 8382 8415 or 0415 140 595.