



THE VICTOR CHANG
CARDIAC RESEARCH INSTITUTE

MEDIA RELEASE

Embargoed until
10am Tuesday 6 September 2005

Plant stem-cells talk - captured on 3-Dimensional camera

Scientists are using new methods of three-dimensional live imaging to watch as plant stem-cells communicate amongst themselves to divide and form specialised organs including, stems, leaves and flowers.

All plants have a region that gives rise to all tissue above the ground, called a shoot apical meristem (SAM). Any good gardener can tell you that by cutting this special section, the plant cannot grow. The cells in this section are stem-cells, as they contain all the information needed for cell division as well as the instructions to form specialised cells, tissues and organs.

The laboratory of Dr Elliot Meyerowitz, from the California Institute of Technology, USA, has developed a way to record 3-dimensional time-lapse images of SAMs as the cells in them communicate and divide. He is in Australia in September for the 15th International Society of Developmental Biologists Congress.

Dr Meyerowitz has shown that these plant stem-cells communicate amongst themselves about how they are going to lead to grow in the plant. The SAMs communication has shed light on how genes are switched on and off as cells divide and specialize into plant organs, and has led to a cellular and mathematical model that explains the spiral patterns in which new leaves and flowers arise - the age old problem of how such regular structures as pine cones, sunflowers, and pineapples are formed by plants.

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