



**Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists**

**Media Release**

**5 December 2011**

## **ARE WE TASTING WITH OUR HEART?**

Researchers at the University of Queensland have made the surprising discovery that our hearts may have the capacity to sense both taste and smell. Simon Foster, a PhD student at the School of Biomedical Sciences has led this breakthrough and will be presenting his findings at the ASCEPT Annual Scientific Meeting in Perth on the 6 December.

For humans and other animals, the ability to smell and taste is critical to survival. Such chemical senses enable us to tell the difference between the nutritious and tasty, and spoiled food and toxins. They also help us detect, identify and discriminate between an immense diversity of substances.

The molecular basis for this relates to the interaction of chemicals in food and air, with proteins called receptors. These receptors were first identified in the nose and tongue, but new research tells us that the capacity to sense smells and tastes may also happen in other places, including the brain, gut and lungs.

Simon Foster has worked alongside Professor Walter Thomas, Head of School of Biomedical Sciences, to discover that at least seven of these taste receptors are made by cells in the heart. This research has also shown that taste receptors work differently in various types of heart cells, which additionally adapt in the heart throughout life. This suggests that the heart could be altering these receptors in response to its environment.

Professor Thomas acknowledges “granted, it’s still early days, but the work is fascinating. Are our hearts sensing the nutrients in our food? Or are there as yet undiscovered hormones in our bodies that are being sensed by these taste and smell receptors? It opens up a whole new area of biology”

Given that these taste receptors belong to a superfamily of receptor proteins, some of which are commonly targeted in heart disease, this research has significant potential to the development of new therapeutics. Whilst still at the early stages, this research represents an international breakthrough, paving the way to investigate novel aspects of cardiovascular biology.

This research will be presented at the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting. National and international leaders in pharmacology and toxicology are meeting in Perth between the 4<sup>th</sup> and 7<sup>th</sup> December 2011 to discuss the latest research on drugs and chemical safety.

The [program](#) of plenary lectures, symposia and workshops, [oral presentations and posters](#) will be academically and scientifically stimulating and lead to new collaborations and research opportunities. [Annual awards and prizes](#) will also be presented at this meeting.

Ends.

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