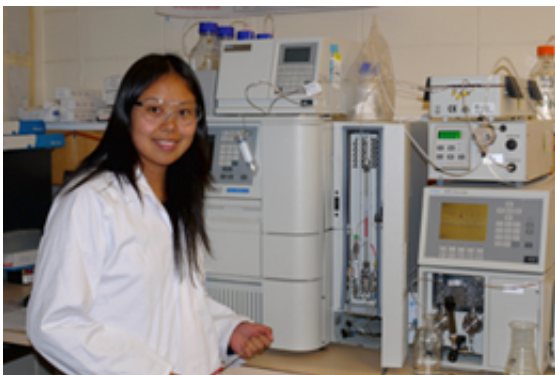


Sex gives clues to new lung cancer treatment

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PhD student Lucy Cao from the ARC Centre of Excellence for Free Radical Chemistry

Research into an enzyme that produces a hormone released after sex has inspired Australian National University chemists to create new treatments for small-cell lung cancer.

Led by Professor Chris Easton and PhD student Ms. Lucy Cao from the ARC Centre of Excellence for Free Radical Chemistry and [Biotechnology](#) at ANU, the team are working to reduce the number of small-cell [lung cancer](#) deaths by building [new drugs](#) that target the biology underlying the disease. Their work has been published in the latest edition of The Royal Society Chemistry journal, *Medicinal Chemistry Communications*.

“Given that one in every 28 Australians are diagnosed with lung cancer

and it is the most common cause of cancer death, there is a real need to develop new pharmaceuticals to treat this disease. Although it is still early days our results are very promising,” said Professor Easton.

The team are investigating an enzyme, known as PAM, which activates a number of important peptide hormones. These include calcitonin, which promotes cell proliferation, and oxytocin, dubbed the ‘love hormone’, as it produces feelings of contentment following orgasm. Imbalances in peptide hormones have been shown to cause inflammatory diseases, asthma, and various cancers.

“Increased levels of calcitonin are correlated with poor survival rates in small-cell lung cancer patients. So we are working to reduce the levels of calcitonin, particularly through controlling the activity of the PAM enzyme,” said Ms. Cao.

Using a novel cell culture experiment that they developed for this project, the researchers have been able to model the effect of their new chemicals on small-cell lung cancer cells.

“We were excited to find that a number of our compounds are very effective in reducing the activity of PAM and decreasing calcitonin levels,” said Professor Easton.

“As we look to take these compounds into formal clinical trials we hope to provide a sexy new drug treatment to improve and extend the lives of many lung cancer sufferers,” he added.

Provided by Australian National University

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