

# Closer to understanding how tumours evade immune responses

June 1 2010

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(PhysOrg.com) -- Scientists are one step closer to understanding how to design effective anti-tumour vaccines, due to PhD research by a recent Victoria University graduate.

Dr Haley Ataera, who graduated from Victoria with a PhD in Biomedical Sciences in May, focused her PhD thesis on trying to understand how [regulatory T cells](#) (Treg), which prevent the body's immune response from damaging itself, work and which cells of the [immune system](#) they negatively affect.

"The human immune system is a series of checks and balances," says Dr Ataera.

"Our immune system is able to launch powerful responses against many diseases, including cancer. However, it also requires mechanisms to suppress the immune response to avoid self-damage. Tumours can hijack these suppressive mechanisms and evade the [immune response](#).

"Recent work has suggested that Treg can destroy cells of the immune system that are required to eliminate the tumour using a pathway that is similar to that used by the immune system to destroy pathogens, such as viruses or tumours. I demonstrated that this does not appear to be the case in some tumours."

Dr Ataera believes this work will help in the design of more effective anti-tumour vaccines in the future.

In June, Dr Ataera is taking up a new position at the center for Cell And Gene Therapy (CAGT) at the Baylor College of Medicine, Houston, Texas, USA where she will work on developing an anti-tumour vaccine to treat the cancer neuroblastomas, one of the most common cancers in childhood and the most common in infancy.

Dr Ataera completed her PhD with the assistance of a Health Research Council grant. Her primary, secondary and tertiary supervisors were Professor Franca Ronchese, Dr Ian Hermans and Dr Anne La Flamme respectively.

All of the PhD work was performed at the Malaghan Institute, based on Victoria University's Kelburn Campus.

Provided by Victoria University

Citation: Closer to understanding how tumours evade immune responses (2010, June 1) retrieved 18 April 2024 from

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