

Latest discovery in the fight against tuberculosis announced

October 18 2011

New research from the Trudeau Institute may help in the ongoing fight against tuberculosis. Dr. Andrea Cooper's lab has discovered a connection between the development of new lymphoid tissue within the lung and protection against the disease. The new data will be published in the November 1 print issue of *The Journal of Immunology* (Vol. 187, Num. 10) and is available now online ahead of print.

Tuberculosis (TB for short) is a deadly infectious disease caused by infection with *Mycobacterium tuberculosis* that affects many people throughout the world. Tuberculosis normally attacks the lungs, but can also affect other parts of the body. It is spread through the air when people with active [TB infection](#) cough, [sneeze](#) or otherwise transmit their saliva through the air. Left untreated, TB can kill more than 50 percent of its victims.

"In the model examined by my laboratory, the absence of a specific [cytokine](#) resulted in poor development of new lymphoid tissue," said Dr. Cooper. "There was an associated loss of a molecule that helps recruit protective cells from the blood to the site of infection within the lung. Although this lymphoid tissue has been seen in tuberculosis lesions in the lung in the past, this is the first time that this part of the immune response has been associated with an active role in protection against tuberculosis."

By understanding how different components of the [immune response](#) control the bacteria that cause tuberculosis, public health officials/health

practitioners will be better positioned to protect against the disease with a combination of vaccination, immunotherapeutics and drugs. The new findings could prove particularly useful as cells within this lymphoid tissue have not been previously targeted by vaccination and may provide novel avenues to improve current vaccines.

The research was performed by current and past members of the Trudeau Institute, including scientists from the University of Pittsburgh and the University of Rochester. Dr. Shabaana Khader, Dr. Javier Rangel-Moreno and Dr. Troy Randall were also involved with the study.

Provided by Trudeau Institute

Citation: Latest discovery in the fight against tuberculosis announced (2011, October 18)
retrieved 19 April 2024 from

<https://medicalxpress.com/news/2011-10-latest-discovery-tuberculosis.html>

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