

Immune finding aids quest for vaccines to beat tropical infections

March 14 2013

Scientists are a step closer to developing vaccines for a range of diseases that affect 200 million people, mainly in tropical south-east Asia, Africa and Central America.

Researchers studying infections caused by [parasitic worms](#) – which can lead to diseases such as [elephantiasis](#) and [river blindness](#) – have shown how these can shut down a part of the immune system that might otherwise fight sickness. Preventing this [immune reaction](#) enables the infection to persist, causing chronic illness.

Scientists have also shown how this immune response can be re-activated to fight invading parasites, and enable the immune system to develop [natural resistance](#) to infection.

Their findings could help inform the development of vaccines for these types of infections. They also point towards potential treatments for allergies, which occur when the same part of the immune system over-reacts to irritants.

Researchers looked at a part of the immune system that responds to parasite infections, in a study of mice. They found that when infection begins, cells that would normally launch a counter-attack on the invading parasite – and in so doing, help develop immunity – become dormant.

They found that blocking the action of a [tiny molecule](#) attached to the surface of the cell reactivates the cell, and enables a fresh attack on the

infection. Scientists hope to investigate the reaction further to determine whether it applies to people and animals such as livestock.

The study, published in *PLOS Pathogens*, was funded by the Medical Research Council and the Wellcome Trust.

Dr Matt Taylor of the University of Edinburgh's School of Biological Sciences, who led the study, said: "Understanding the intricacies of the immune system is a major goal in being able to control disease. This discovery brings us a step closer to explaining how long-term infections occur – and how we might, in time, be able to tackle them."

Provided by University of Edinburgh

Citation: Immune finding aids quest for vaccines to beat tropical infections (2013, March 14) retrieved 26 April 2024 from

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