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Scientists pinpoint key defense against parasite infection

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Scientists have made a significant discovery about how the body defends itself against snail fever, a parasitic worm infection common in developing countries.

Researchers studied the immune response in mice infected with snail fever parasites. They found that a particular type of immune cell, known as the dendritic cell, is responsible for triggering the immune system's defence against the invading parasite.

The development, by scientists at the University of Edinburgh, could point towards new avenues of research into treatments for the condition, which causes long-term infection.

Snail fever, also known as bilharzia, is a water-borne potentially fatal disease caused by flukes – or parasitic worms – found in freshwater snails in the tropics. Common in developing countries in Asia, Africa and South America, the condition causes chronic illness that can damage internal organs and impair growth and brain development in children.

The disease, which commonly affects tourists who kayak or swim in infected waters, is second only to malaria in terms of its devastating social and economic impact.

The study, published in the *Journal of Experimental Medicine*, was carried out in collaboration with the German Cancer Research Centre in Heidelberg and funded by the Medical Research Council and the

Wellcome Trust.

Dr Andrew MacDonald, of the University of Edinburgh's School of Biological Sciences, who led the research, said: "Until now, we were unsure which of the many cells found in the immune system were crucial to fighting this parasite. We now know that dendritic cells are key to the process. If we can manipulate this immune response, we stand a chance of targeting the widespread suffering and chronic illness caused by this infection."

Provided by University of Edinburgh

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