

Parasitic worms of pigs could provide new treatments of human diseases

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Trichuris suis, Pig whipworm

(Medical Xpress)—New treatments for inflammatory bowel disease, rheumatoid arthritis, multiple sclerosis, diabetes and autism could be on the horizon, after a global University of Melbourne – lead study successfully mapped the genes of a parasitic worm in pigs.

Lead researcher, Dr Aaron Jex, Faculty of Veterinary Science, said, "We know that humans infected with the harmless, 'pig whipworm' can have significantly reduced symptoms linked to autoimmune diseases. And now we have the genetic sequence of the worm, it opens the door to

future human drug designs and treatment."

Although the 'pig whipworm' causes disease and losses in livestock, it does not cause disease in humans.

In contrast, the 'human whipworm' infects around 1 billion people, mainly children in developing nations, and causes dysentery, malnourishment and impairment of physical and mental development.

Coauthor, Prof Robin Gasser, Faculty of Veterinary Science, said, "The genes tells us about the proteins that this worm uses to interact with our immune systems. Knowing the worm's molecular landscape could be very useful in starting to understand autoimmune diseases in humans."

The pig whipworm genome also provides a model to study the human parasite.

The study involved 11 institutions in six countries and is published in *Nature Genetics* online.

More information: "Genome and transcriptome of the porcine whipworm *Trichuris suis*." Aaron R Jex, et al. *Nature Genetics* (2014) [DOI: 10.1038/ng.3012](https://doi.org/10.1038/ng.3012). Received 15 December 2013 Accepted 22 May 2014 Published online 15 June 2014

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