Sleeping sickness study offers insight into human cells

EurekAlert

Fresh discoveries about the parasite that causes sleeping sickness could lead to new avenues of research into treatments for the disease.

Scientists studying the parasite which is spread by the tsetse fly and infects the blood of people and animals have shed light on how it is able to survive when taken up by a feeding fly.

Sleeping sickness is a potentially fatal condition which affects up to 70,000 people in sub-Saharan Africa, and millions more are at risk from the disease.

Researchers from the University of Edinburgh found that when the parasite is swallowed by a fly, a reaction is triggered in a particular part of the parasites' cells. This causes a change in the activity of enzymes stored there, allowing the parasite to rapidly adapt its body to survive in the fly's gut.

The part of the parasite cell associated with this response has a corresponding part in human cells. Because of this, researchers say their study could also point towards greater understanding of human genetic disorders linked to cell defects. These include Zellweger syndrome, a rare neurological condition that causes infant death.

The study, published in the journal *Genes and Development*, was supported by the Wellcome Trust and the BBSRC.

Professor Keith Matthews, of the University of Edinburgh's School of Biological Sciences, who led the research, said: "Our results also give valuable insight into how our own cells evolved and how they function, which is helpful for understanding some inherited diseases. These findings also provide hope for a target to stop the spread of these deadly parasites."

SOURCE [1]

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