Revealing secrets of 'African sleeping sickness'

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Scientists in the United Kingdom and Russia are reporting identification of a long-sought chink in the armor of the parasite that causes African sleeping sickness, a parasitic disease that kills at least 50,000 people each year. Their study appears in the current edition of ACS *Chemical Biology*.

In the study, Michael Ferguson and colleagues cite an "urgent" need for new treatments for the disease, which is spread by the tsetse fly and also affects cattle — a precious possession that represents a bank account on four feet to impoverished people in sub-Sahara Africa. Current treatments for African sleeping sickness, Ferguson says, are not only difficult to administer, but also expensive and toxic.

Their research identified the first compound to impede a key step in an essential biochemical pathway in the sleeping sickness parasite. Blocking this pathway disrupts the production of a key glycolipid that anchors protective proteins to the surface of the parasite. The analysis also revealed notable differences between pathways of parasitic and human cells, which could reveal insight into possible therapeutic targets.

Article: "Probing Enzymes Late in the Trypanosomal Glycosylphosphatidylinositol Biosynthetic Pathway with Synthetic Glycosylphosphatidylinositol Analogues"
dx.doi.org/10.1021/cb800143w

Source: ACS