

## **Inhibitory effect of *Trypanosoma brucei brucei* on *Glossina morsitans morsitans* midgut trypsin in vitro**

<http://hinari-gw.who.int/whalecomwww.ncbi.nlm.nih.gov/whalecom0/pubmed/1409526>

<http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/31037>

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### **Abstract:**

The ability of *Trypanosoma brucei brucei* to inhibit trypsin or trypsin-like enzymes in crude midgut homogenates of *Glossina morsitans morsitans* was studied in vitro. The isolated parasites caused a concentration-dependent decrease in midgut trypsin activity. Furthermore, trypanosomes lysed by repeated freeze-thawing had a similar effect on trypsin activity. In both cases, the inhibition by either intact or lysed parasites was partial as revealed by Dixon plots. Similarly, trypanosome membrane proteins stoichiometrically inhibited trypsin activity, suggesting that the enzyme interacts specifically with a moiety on the parasite surface. The  $K_m$  and  $K_i$  values obtained in this case were 35  $\mu\text{M}$  and 0.18 mg/ml, respectively. These results suggest that one of the ways in which trypanosomes overcome the hostile tsetse-fly midgut barrier involves the inhibition of enzyme activity