Antitrypanosomal effects of *Zanthoxylum zanthoxyloides* extracts on African trypanosomes

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ABSTRACT

African trypanosomiasis is a disease caused by the parasitic protozoa of the *Trypanosoma* genus. Despite several efforts at chemotherapeutic interventions, the disease poses serious health and economic concerns to humans and animals of various sub-Saharan African countries. Commercially available drugs have reported cases of undesirable side effects, drug resistance, and difficulty in regimen application. Moreover, even though studies have reported antitrypanosomal activities of different plant extracts in several parts of the world**,** action mechanisms of these extracts remain poorly understood**.** *Zanthoxylum* is a widely distributed plant genus with several pharmacological and phytochemical properties. The aim of this study was thus to determine the effect of active fractions of the plant species *Zanthoxylum zanthoxyloides* (root) on the cell cycle and induction of cell death of *Trypanosoma brucei*. While fractions moderately induced apoptosis-like cell death, they significantly affected the cell cycle of the parasite. Results suggest that *Zanthoxylum zanthoxyloides* (root) have potential chemotherapeutic effects on African trypanosomes with implications for novel therapeutic interventions in African trypanosomiasis.