The antiplasmodial activity of spermine alkaloids isolated from Albizia gummifera.

Rukunga, GM
Kenya Medical Research Institute (KEMRI)

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Abstract

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Author information

• ¹Kenya Medical Research Institute, PO BOX 54840, Nairobi, Kenya. grukunga@memri.org

Abstract

In the present study the methanolic extract of Albizia gummifera was fractionated into various fractions. These fractions were tested against chloroquine sensitive (NF54) and resistant (ENT30) strains of Plasmodium falciparum. All other fractions apart from the alkaloidal fraction showed low activity with IC 50 above 3 microg/ml. The alkaloidal fraction exhibited strong activity against NF54 and ENT30 with IC 50 of 0.16+/-.05 and 0.99+/-.06 microg/ml, respectively. Five known spermine alkaloids were isolated from the alkaloidal fraction. These alkaloids exhibited activities against NF54 and ENT30 with IC 50 ranging from 0.09+/-.02 to 0.91+/-.10 microg/ml. Four of the alkaloids were further evaluated for in vivo activity against rodent malaria parasite Plasmodium berghei. The alkaloids showed percentage chemosuppression of parasitaemia in mice ranging from 43 to 72%. The use of the extracts A. gummifera for treatment of malaria in traditional medicine seems to have a scientific basis.

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