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## *In vivo* antimalarial activity of solvent fractions of *Croton macrostachys* H. (Euphorbiaceae) against *Plasmodium Berghei* in mice

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In 2010 approximately 655,000 people died from malaria. Ethiopia is one of the most malaria-epidemic prone countries, with two-thirds of the country's population at risk. *Croton macrostachys* (Bisana) is traditionally used as an antimalarial remedy and previous study demonstrated the activity of the crude extract. The present study is aimed to evaluate *in vivo* antimalarial activity of solvent fractions of crude leaf extract of the plant against *Plasmodium berghei* infection in mice. The crude extract was prepared using cold maceration technique. The dried crude extract was further fractionated with three solvents using Soxhlet apparatus and maceration. Phytochemical screening of fractions was done using standard methods. The antimalarial activity of fractions at 200, 400 and 600 mg/kg doses was tested using a standard four day suppressive test and additional Rane's test for the active fraction. All the solvent fractions exhibited significant ( $p < 0.001$ ) antimalarial activity with improved survival time compared to control in four day suppressive test. Chloroform fraction was found to be the most active, producing 75.9% chemosuppression and significantly ( $p < 0.001$ ) prevented packed cell volume reduction and temperature lowering ( $p < 0.001$ ) at 600 mg/kg dose compared to control, followed by the methanol fraction with of 64.2% chemosuppression at 600 mg/kg dose. Chloroform fraction further showed significant parasite growth suppression and considerable mean survival time compared to control group in established parasite infection. Chloroform and methanol fractions were found to possess a higher antimalarial activity, showing that semi-polar and non-polar components of the leaves of the plant were responsible for its activity.

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