

In vivo Anti-plasmodial Activity of Crude Extracts of Three Medicinal Plants Used Traditionally for Malaria Treatment in Kenya

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Abstract

The aim of the study was to determine the in vivo anti-plasmodial activity of three plants *Rhamnus prinoides*, *Rubus keniensis* and *Garcinia buchananii* which are used for malaria treatment by indigenous communities in Kenya. This work was done at the Department of Biological and Preclinical studies, Institute of Traditional Medicine, Muhimbili University of Health & Allied Sciences in October 2016 to August 2017. Male and female albino mice were infected with *Plasmodium berghei* (ANKA) in the Peter's four day suppression test. Five groups of mice; Group 1 (solvent 5 mL/kg body weight of 1% carboxymethyl cellulose), Group 5 (10 mg/kg body weight chloroquine), Groups 2, 3 and 4 were given 200, 400 and 800 mg/kg body weight of plant extracts. The results showed that 5% aqueous methanol extracts of *R. prinoides*, *G. buchananii* and *R. keniensis* exhibited higher anti-plasmodial activity than the 11 dichloromethane methanol extracts in the preliminary testing. The doses showing 50% parasite suppression (EC₅₀) were 139.2, 169.4 and 245.1 mg/kg body weight for *R. prinoides*, *G. buchananii* and *R. keniensis*, respectively. In vivo anti-plasmodial activity of the three plants has supported the traditional use of extracts of *Rhamnus prinoides*, *Rubus keniensis* and *Garcinia buchananii* for treatment of malaria. Isolation of compounds from these plants is in progress.

Anti-plasmodial; in vivo activity; *Rhamnus prinoides*; *Garcinia buchananii*; *Rubus keniensis*