

In vitro anti-plasmodial and in vivo anti-malarial activity of some plants traditionally used for the treatment of malaria by the Meru community in Kenya

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Abstract:

Extracts of seven medicinal plant species used for treatment of malaria in traditional/cultural health systems of the Ameru people in Kenya were tested in vitro and in vivo against *Plasmodium falciparum* (D6 and W2 strains) and *P. berghei*, respectively. Of the plants tested, 28.57% were highly active (IC₅₀ <10 µg/ml) and 42.86% moderately active (IC₅₀ 10–50 µg/ml), while 28.57% had weak activity of 50–125 µg/ml in vitro. The water and methanol extracts of *Boscia salicifolia* Oliv. and *Artemisia afra* Jacq. (ex-Willd.) were the most active against both the chloroquine (CQ)-sensitive (D6) and the CQ-resistant (W2) *P. falciparum* strains. *Artemisia afra* and *Rhus natalensis* Bernh. (ex-Krauss) exhibited the highest parasite clearance and chemo-suppression (>70%) in vivo (in mice). The plants with high in vitro anti-plasmodial (low IC₅₀ values) and high anti-malarial activity (high chemo-suppression) in vivo are potential sources of novel anti-malarial drugs.