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In vivo antimalarial and *in vitro* antimicrobial evaluation of latex and compounds isolated from the leaf latex of *Aloe sinana* Reynolds

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Despite a control program lasting over 40 years 68% of the total population, is still at risk of infection with malaria. Besides individuals suffering caused by malaria, the agriculture dependent economy of Ethiopia is being weakened by the burden of this devastating disease. In the search for new antimalarial and antimicrobial compounds from plants, the leaf latex of the indigenous medicinal plant *Aloe sinana* Reynolds from Ethiopia were subjected to bioassay-guided fractionation, which led to the isolation of three known compounds, microdantin, aloin and aloinoside. The latex and isolated compounds were tested for their antimalarial activities by a 4-day suppressive test against mice infected with *Plasmodium berghei* and their antimicrobial activities were assessed against 21 bacterial and 4 fungal strains using disk diffusion method.

Both the latex and isolated compounds showed significant chemosuppression in mice infected with *P. berghei*. The latex showed very good antiplasmodial activity in 4-day suppressive test. Among the isolated compounds, aloinoside showed the highest antiplasmodial activity inhibiting parasite growth by 85.2% at a dose of 100 mg/kg. The latex and isolated compounds showed promising result against various pathogenic bacterial and fungal strains in comparison with standard drugs. From the results obtained in the present study, it can be concluded that the leaf latex of *A. sinana* and its isolated compounds could serve as potential candidates for the treatment of microbial infections and malaria supporting the traditional uses of the plant.

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