

Publication

## Anthelmintic properties of mangostin and mangostin diacetate

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Few anthelmintic drugs are available for human use despite the significant burden caused by helminth infections. We studied the activities of mangostin, a major bioactive xanthone isolated from the pericarp and fruit of *Garcinia mangostana* and of the synthetic derivative mangostin diacetate. Mangostin and mangostin diacetate lacked activity against the nematodes *Heligmosomoides polygyrus* (third-stage larvae (L3)), *Ancylostoma ceylanicum* L3, and *Trichuris muris* adults and showed only low activity against *A. ceylanicum* adults (IC(50)s of 91µg/ml) in vitro. Mangostin showed promising activities (IC(50) of 2.9-15.6µg/ml) against the trematodes *Schistosoma mansoni*, *Echinostoma caproni* and *Fasciola hepatica* in vitro. Single oral doses (400mg/kg and 800mg/kg) of the drugs achieved worm burden reductions ranging from 0 to 38% and 11-54% against *S. mansoni* and *E. caproni* in vivo, respectively. Pharmacokinetic studies would be helpful to understand the differences observed between in vitro and in vivo activities and lacking dose-response relationships

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