

Poster

Inhibition of Cruzain by triterpenoids isolated from a *Salacia* species from Monteverde, Costa Rica

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Introduction. Chagas disease, caused by the parasitic protozoan *Trypanosoma cruzi*, currently afflicts about 18 million people in tropical and subtropical America. Current chemotherapeutics include benznidazole and nifurtimox, but these treatments cause severe side effects, so there is a need for new antitrypanosomal agents. The cysteine protease cruzain has been suggested to be a biochemical target for antiparasitic drug discovery [1].

Objectives. To screen tropical rainforest plant extracts for cruzain inhibitory activity; to use activity-directed isolation to identify active agents.

Methods. The crude chloroform bark extract of *Salacia* sp. nov. "liana" [2] was subjected to activity-directed preparative flash chromatography on a silica gel column, eluting with hexane/ethyl acetate, and the cruzain inhibitory compounds were isolated. Structures of the active compounds were determined by NMR analysis. The crude bark extract, chromatographic fractions, and purified active compound were tested for inhibitory activity against recombinant cruzain using a fluorescence assay.

Results. The cruzain inhibitory compounds isolated were the known triterpenoids 25,28-dihydroxyfriedelin (IC-50 = 154 ug/mL), canophyllol (IC-50 = 87.4 ug/mL), and the novel 30-hydroxyfriedelin-29- α -3-one (IC-50 = 71.1 ug/mL). Also isolated but inactive were friedelin and tingenone (IC-50 > 500 ug/mL).

Conclusion. Tropical rainforest plants are a promising source of new medicinal agents.

Keywords: Chagas disease, friedelane triterpenoids

Selected References

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