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Phytochemical screening of the exudate of Aloe otallensis and its effect on Leishmaniadonovani

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Abstract

Objective: To evaluate the antileishmanial activity of methanolic extract of Aloe otallensis (A. otallensis) on the promastigote stage of Leishmaniadonovani (L. donovani) as compared to standard drugs and to screen its phytochemical constituents.

Methods: Phytochemical screening was done by using the method mentioned by Evans and Trease on methanolic extract of the exudates of Aloe otallensis leaves. The extract was also evaluated for in vitro antileishmanial activity against L. donavani which is found from the Parasitology Unit of Black Lion Hospital. The result was compared to standard drugs of sodium stibogluconate, milfostin and paramomycin.

Results: The extract has a good antileishmanial activity with an IC50 of 0.1230 µg/mL on L. donovani (AM 563). The experimental data showed that relatively it had better activity than paramomycin and milfostin but less activity than sodium stibogluconate. The data analyses were done by GraphPad Prism version 5 software after it was read by ELISA reader at the wave length of 650 nm. The phytochemical screening of the exudates of A. otallensis showed the presence of phenol, alkaloid and saponin.

Conclusions: The methanol extract of the exudates of A. otallensis has a good antileishmaniasis activity and this may be attributed to phenol, alkaloid and saponin present in the plant. But it needs further analysis for the conformation of which constituent presents in high concentration to know which one has the strongest effect.

Biography:

NigusseZerihunTesfaye has completed Diploma in Chemistry from Kotebe Teaching College in 2006 and Bachelor of Pharmacy degree in 2011 from Addis Ababa University, Ethiopia. He was trained on the area of surveillance of insecticide resistance mosquitoes at KEMRI, Kenya Research Center. He is working as a Senior Clinical Pharmacist at Addis Ababa University, College of Health Science, Black Lion Specialized Teaching Hospital. He also serves as a Drug Supply Management Coordinator, The Head of Special Pharmacy of the hospital, the Secretary of Drug Therapeutic Committee (DTC) and other committee works., College of Health Sciences, Addis Ababa University

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