A new cinnamoylglycoflavonoid, antimycobacterial and antioxidant constituents from Heritiera littoralis leaf extracts

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Abstract

A new cinnamolyglycoflavonoid 3-cinnamoyltribuloside (1), its precursor tribuloside and two known flavonoid glycosides afzelin and astilbin were isolated from Heritiera littoralis Dryand (Sterculiaceae) ethanolic leaf extract. The dichloromethane leaf extract afforded two known pentacyclic triterpenoids, 3β-taraxerol and friedelin. Extracts and compounds isolated therefrom, with the exception of 3β-taraxerol, exhibited antimycobacterial activity against the non-pathogenic Mycobacterium species Mycobacterium madagascariense and Mycobacterium indicus pranii, with a minimum inhibitory concentration (MIC) 5.0 mg/mL for the crude extracts and MICs in the range of 1.6–0.8 mg/mL for the pure compounds. The extracts together with 3-cinnamoyltribuloside (1), tribuloside and astilbin exhibited 1,1-diphenyl-2-picrylhydrazyl radical scavenging activity. The compounds that showed dual activities could be further evaluated under clinical settings for co-administration with standard anti-tuberculosis drugs.

Keywords: