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Biflavonoids from the leaves and stem bark of *Garcinia griffithii* and their biological activities (Article)

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Abstract

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The phytochemical and biological activity of the leaves and stem barks of *Garcinia griffithii* have been investigated. Extraction and chromatographic purification of the leaves and stem barks extracts have successfully afforded five biflavonoids namely amento-4"-methylether (1), 3,8"-binaringenin (2), morelloflavone (3), 3,8"-binaringenin-7"-O-glucoside (4) and morelloflavone-7"-Oglucoside (5), together with squalene (6), canophyllol (7), friedelin (8) and β -amyryn (9) which were characterized spectroscopically. All extracts and phytochemicals were tested for antioxidant, antityrosinase and antibacterial activities. The antioxidant assay on DPPH radical scavenging showed that the n-hexane extract of the stem barks had the highest radical scavenging activity with IC₅₀ value of 96.4 μ g/mL, while compound (3) was found to be the strongest antioxidant compound with IC₅₀ value of 57.6 μ g/mL. The methanol extract of the leaves showed the highest total phenolic content with 444.1 mg/g of gallic acid equivalent (GAE/L) and 423.1 mg/g of catechin equivalent (CE/L). The extracts and all compounds were found to have weak antityrosinase activity. The antimicrobial assays of all the extracts were carried out by minimum inhibition concentration (MIC) and minimum bactericidal concentration (MBC). The methanol extract of the leaves showed the most significant antimicrobial activity towards *E. faecalis* and *K. pneumoniae* with MIC and MBC value ranged between 225-450 μ g/mL compared to the other extracts. © 2017, Marmara University. All rights reserved.

Author keywords

Antibacterial Antioxidant Antityrosinase *Garcinia griffithii*

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