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CHEMICAL CONSTITUENTS AND BIOLOGICAL ACTIVITY OF LEAF OIL OF *MITRELLA KENTII* (ANNONACEAE)

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The chemical composition of the leaf oil of *Mitrella kentii* (Annonaceae) was determined by gas chromatography (GC) and gas chromatography-mass spectrometry (GC-MS). Caryophyllene oxide (33.8%), *E,Z*-farnesol (6.9%), benzyl benzoate (6.5%), viridiflorol (6.5%) and cyclohexadecanolide (5.4%) were the major components in the oil. The oil was evaluated for its ability to inhibit prostaglandin E₂ (PGE₂) biosynthesis in human plasma and thromboxane B₂ (TXB₂) biosynthesis in human serum using radioimmunoassay technique. Its inhibitory effect on platelet-activating factor (PAF) receptor binding with rabbit platelets using ³H-PAF as a ligand was also investigated in addition to its free radical scavenging effect on DPPH. The oil showed strong PAF receptor binding inhibitory activity (73.1%) with IC₅₀ value of 6.6 µg/mL and significant DPPH scavenging activity (86.9.1%) with IC₅₀ value of 155.6 µg/mL. However, weak inhibitory activity were observed in both PGE₂ (35.4%) and TXB₂ (12.7%) assays. The strong PAF antagonistic activity and DPPH scavenging activity could be due to the presence of the major components in the oil.

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PHYTOCHEMISTRY AND ANTIOXIDANT ACTIVITY OF GARCINIA PRAINIANA

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Phytochemical investigation of the leaves and stem bark of *G. prainiana* was carried out. The leaves and stem barks of *G. prainiana* collected from Kuantan, Pahang were extracted by soxhlet extractor with hexane, dichloromethane and methanol to get the crude extracts. The crude extracts were purified by column chromatography to yield pure compounds which were characterized spectroscopically using IR, NMR (1D and 2D), UV and MS. Fractionation and purification of the hexane extract of leaves yielded triterpenes, squalene and friedelin. The methanol extract of leaves and stem barks afforded bioflavonoid characterized as morelloflavone and O-methyl fukugetin. Total phenolic content studies were carried out on the crude extracts by using Folin-Ciocalteau reagent. The methanol extract of leaves and stem barks showed the highest total phenolic content expressed as gallic acid and (\pm)-catechin equivalents. These extracts also showed the highest value of ascorbic acid and butylated hydroxytoluene (BHT) equivalents on forming the phosphomolybdenum complex in the total antioxidant assay. The antioxidant assay on 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical showed that the methanol extract of stem barks had the highest free radical scavenging activity with IC₅₀ value 74.5 μ g/mL while the isolated compound, morelloflavone revealed a strong free radical scavenging activity with IC₅₀ value 15.7 μ g/mL.