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Chemical constituents and anti-inflammatory activity of the aerial parts of *Curcuma longa*

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Curcuma longa is a perennial medicinal plant that is utilized widely in Asia. Here, we evaluated the effects of extracts of the aerial parts of *C. longa* on inflammatory processes in RAW264.7 macrophage cells. Dried aerial parts of *C. longa* were extracted with methanol and partitioned successively with CH_2Cl_2 and n-BuOH. This n-BuOH fraction (0-40 µg/ml) significantly suppressed the lipopolysaccharide-mediated induction of nitric oxide, prostaglandin E2 and pro-inflammatory cytokines. Western blotting found that the levels of nitric oxide synthase and cyclooxygenase-2 were also reduced in a concentration-dependent manner, in the absence of cytotoxicity. The major components present in this extract were isolated and chemically characterized using ultra-performance liquid chromatography-quadrupole time-of-flight mass spectrometry and nuclear magnetic resonance spectroscopy. Four flavonoids were identified: Quercetine 3-O-(2G-a-L-rhamnosyl)-rutinoside (1); quercetin 3-O-rutinoside (2); quercetin 3-O-rhamnosyl-(1→2)-rhamnoside (3) and quercetin-3-O-rhamnoside (4).

Biography

Hyung Jae Jeong has completed his PhD from Gyeongsang National University and Post-doctoral studies from Korea Research Institute of Bioscience and Biotechnology (KRIBB). He has researched on the application of biologically active material on field and establishment of mass processing system for biologically active material. He has published more than 30 papers in reputed journals.

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