

Inhibitory Effects of Manassantin A and B Isolated from the Roots of *Saururus chinensis* on PMA-Induced ICAM-1 Expression

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In the course of our search for intercellular adhesion molecule-1 (ICAM-1)/leukocyte function-associated antigen-1 (LFA-1) mediated cell adhesion inhibitors from natural sources, new type of cell adhesion inhibitors were isolated from the MeOH extract of *Saururus chinensis* roots. On the basis of spectral evidence, the structures of the active compounds were identified as manassantin A and B. Manassantin A and B inhibited phorbol 12-myristate 13-acetate (PMA)-induced homotypic aggregation of the human promyelocytic leukemia HL-60 cells without cytotoxicity with MIC value of 1.0 and 5.5 nM, respectively. Even though manassantin A and B did not affect the adhesion of HL-60 cells to CHO-ICAM-1 cells, these compounds inhibited PMA-induced ICAM-1 expression in HL-60 cells with a dose dependent fashion. These results suggest that inhibitory activity of cell aggregation by manassantin A and B was induced by down-regulation of ICAM-1 expression, and support the pharmacological basis of these compounds for the prevention of atherosclerosis and inflammation.

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Protective agents against sepsis from the root bark of *Paeonia suffruticosa*

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The bioassay-guided fractionation of protective agents against sepsis-induced lethality from the root bark of *Paeonia suffruticosa* led to the isolation of ten known compounds: paeonol (1), 2,5-dihydroxy-4-methoxyacetophenone (2) methyl 3-hydroxy-4-methoxybenzoate (3), acetovanillone (4), benzoic acid (5), benzoylpaeoniflorin (6), paeonoside (7), paeoniflorin (8), oxypaeoniflorin (9) and apiopaeonoside (10). Among them, 4 exhibited the highest survival rate in a dose-dependent manner (100% with a dose of 30 mg/kg versus 16.7% for the control experiment) and showed reduction of plasma alanine aminotransferase (ALT) value on the in vivo assay model of sepsis induced by LPS/D-GalN.

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Development of a Simultaneous Analysis Method for "*Acanthopanax Sp.*" by Reversed-phase Liquid chromatography

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Acanthopanax Cortex (*Acanthopanax sessiliflorum*, Araliaceae, KP VIII), an important Korean medicinal herbal drug, has been widely used as tonic, anti-stress and immuno-enhancing drugs. To monitor the contents of active ingredients (acanthoside D[=eleutheroside E], eleutheroside B, isofraxidin, chlorogenic acid, and caffeic acid) in *Acanthopanax sp.*, we developed the HPLC analysis method and validated. The simultaneous determination of five active ingredients was achieved in a C₁₈ column with an acetonitrile water (containing 1 % phosphoric acid) (15 : 85) mobile phase. The detection was performed at UV 210 nm. The linearity of peak area responses versus concentrations was demonstrated from 10-200µg/ml of acanthoside D, 4~400µg/ml of eleutheroside B, 10~400µg/ml of isofraxidin, 10~200 µg/ml of chlorogenic acid, and 10~200µg/ml of caffeic acid ($r^2=0.999$), respectively. Contents of five active ingredients were monitored for different tissue parts (root and stem) of eleven *Acanthopanax sp.* distributed in Korea naturally or culturally.