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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Acanthopanacis 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 C_{18} 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.