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Anti-complement Activity of Constituents from the Stem-Bark of *Juglans mandshurica*

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Four known flavonoids and two galloyl glucoses isolated from the stem-bark of *Juglans mandshurica* (Juglandaceae), namely taxifolin (1), afzelin (2), quercitrin (3), myricitrin (4), 1,2,6-trigalloylglucose (5), and 1,2,3,6-tetragalloylglucose (6), were evaluated for their anti-complement activity against complement system. Afzelin (2) and quercitrin (3) showed inhibitory activity against complement system with 50% inhibitory concentrations (IC₅₀) values of 258 and 440 μM. 1,2,6-Trigalloylglucose (5) and 1,2,3,6-tetragalloylglucose (6) exhibited anti-complement activity with IC₅₀ values of 136 and 34 μM. In terms of the evaluation of the structure-activity relationship of 3,5,7-trihydroxyflavone, compounds 2, 3, and 4 were hydrolyzed with naringinase to give kaempferol (2a), quercetin (3a), and myricetin (4a) as their aglycones, and these were also tested for their anti-complement activity. Of the three aglycones, kaempferol (2a) exhibited weak anti-complement activity with an IC₅₀ value of 730 μM, while quercetin (3a) and myricetin (4a) were inactive in this assay system. Among the compounds tested, 1,2,3,6-tetragalloylglucose (6) showed the most potent anticomplement activity (IC₅₀: 34 μM).

[PD2-17] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

Aldose Reductase Inhibitory Constituents from *Ganoderma applanatum*

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The EtOAc and CH₂Cl₂ soluble fractions from the fruit body of *Ganoderma applanatum* showed strong aldose reductase inhibitory activity. Nine compounds were isolated from both fractions. They were identified by spectral data as D-mannitol (1), 2-methoxyfatty acid (2), cerebrosides [(2S,3R,4E,8E)-1-O-β-D-glucopyranosyl-3-hydroxy-2-[(R)-2'-hydroxypalmitoyl]amino-9-methyl-4,8-octadecadiene] (3), daucosterol (4), 2,5-dihydroxybenzoic acid (5), protocatechualdehyde (6), 5-dihydroergosterol (7), ergosterol peroxide (8), and cerevisterol (9). Among these compounds, 3, 6, and 8 exhibited strong aldose reductase inhibitory activities.

[PD2-18] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

A New Antioxidant Polyphenolic Compound from Two Korean Brown Algae

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