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The transmission of signals derived from T cell stimulation leads to the activation of the Ca^{+2}-calcineurin pathway, which in turn triggers the translocation of NFAT to the nucleus. NFAT is a family of transcription factors present in cells and tissues of the immune system. Upon calcium signalling, the Ca^{+2}-calmodulin dependent phosphotase calcineurin dephosphorylates NFAT proteins leading to the unmasking of the nuclear localization sequences and the translocation of NFATs to the nucleus. The Jurkat cell line containing the NFAT dependent transcriptional reporter gene, SEAP, was used to find the inhibitor of the NFAT transcription activity from medicinal plants. Hundreds of plant extracts were screened on the inhibitory activity against the NFAT transcription activity. Among them, the MeOH extract of *Cnidium officinale* showed a potent inhibitory effect against the NFAT transcription activity without the effect of NF-κB transcription. Several compounds were isolated by the bioassay-directed isolation procedure from the MeOH extract of *Cnidium officinale*. Their structures were elucidated by physicochemical and spectral data.

[PD2-17] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

A rare C-methylated flavonoid glycoside from the leaves of Pinus densiflora

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Red pine, the *Pinus densiflora* Sieb. et Zucc. (Pinaceae) grows naturally or is planted in mountain regions of Korea, Japan and China. The leaves of red pine have long been used as a nourishing tonic drug in Korean folk medicines. The pine leaves are frequently used to brew a tea in Korea. Previously we reported that the methanolic extract of the leaves of *P. densiflora* exerts radical scavenging effect on 1,1-diphenyl-2-picrylhydrazyl radicals. From this methanolic extract, (+)-catechin was isolated as one of active principles, together with the inactive components, dihydrokaempferol, and 1-*O*-benzoyl glucoside. In the course of continuous work on this plant, a new *C*-methyl flavonol glucoside **(1)** along with kaempferol 3-*O*-galactoside **(2)** and its 6"-acetate **(3)** were isolated. The structure of the new flavonol was characterized as 5,7,8,4'-tetrahydroxy-3-methoxy-6-methylflavone 8-*O*-β-D-glucopyranoside from spectroscopic evidences.

[PD2-18] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Structure of Codonoposide Isolated from Codonopsis lanceolata Roots and the Cytotoxic Activity of Prosapogenins

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Roots of Codonopsis lanceolata (Campanulaceae) have been used as tonics in the Korean traditional medicine. We have isolated a new saponin named codonoposide (1, 3-O-[beta-D-xylopyranosyl(1-3)-beta-D-glucuronopyranosyl]-3beta,24,16alpha-trihydroxyolean-28-oic acid 28-O-[beta-D-xylopyranosyl(1-3)-alpha-L-rhamnopyranosyl(1-2)-alpha-L-galactopyranosyl] ester). Partial hydrolyses of 1 afforded a sapogenin (1a) and two prosapogenins (1b, 1c), and the structures of hydrolysates (1a, 1b, 1c) were established by spectroscopic data. The structures were found to be 3beta,24,16alpha-trihydroxyolean-28-oic acid (1a), 3-O-beta-D-glucuronopyranoside of 1a and 3-O-beta-D-xylopyranosyl(1-3)-beta-D-glucuronopyranoside of 1a, respectively. On MTT assay, 1c