Lactus scariola L. (Compositae), naturalized plant, is widely distributed in south Korea. As a part of our systematic study of Korean natural plants, Lactus scariola was studied. Although several plants of the Lactus genus have been examined for their chemical constituents, Lactus scariola has not been investigated in detail on phytochemical analysis. Chemical investigation of the aerial parts of Lactus scariola has led to the isolation of several compounds. From the ethylacetate soluble fraction a sesquiterpene and four flavonoids has been isolated. Their structures were established by chemical and spectral evidence.

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

Additional New Cytotoxic Compounds from the Sponge Sarcotragus sp.

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Four new furanosesterterpene analogues, two furanosterterpene alkaloids, and a cyclitol derivative were isolated from the marine sponge Sarcotragus sp. by bioactivity-guided fractionation. These compounds showed a significant toxicity to brine shrimp larvae. The gross structures were established based on NMR and MS analyses. The compounds were evaluated for cytotoxicity against five human tumor cell lines.

[PD2-15] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Phytohemical Constituents of Abies koreana

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Abies koreana Wilson (Pinaceae) is a tall evergreen tree which grows indigenously on the high mountains at the southern province of Korea. Although several plants of the *Abies* genus have been examined for their biological activities and chemical constituents, *Abies koreana* has not been investigated in detail on phytochemical analysis.
In previous studies, the isolates of three compounds including hexacosylferulate have been reported from this plant. In the continued search for chemical constituents from *A. koreana*, we have isolated several components from its leaves and branches. The isolation and structure elucidation of these compounds will be presented.

[PD2-16] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Inhibitory effect on the NFAT-dependent transcription activation by Cnidium officinale

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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