

Tannin-rich fruit of *Cornus officinalis* Sieb. et Zucc has been used as an ingredient in several prescriptions of Oriental medicine. *Cornis fructus* was extracted by successive extraction. *Cornis fructus* extracts were investigated for antimicrobial and antioxidative activities. Antimicrobial effects used disk diffusion method. All extracts were examined against *Streptococcus mutans*, *Staphylococcus aureus* and *Pseudomonas putida*. Methanol extract showed the highest antimicrobial activity. Antioxidant effects used DPPH method. Antioxidative activities of the methanol extract were stronger than the others.

[PA1-31] [ 04/17/2003 (Thr) 14:00 - 17:00 / Hall P ]

### Isolation of diterpene acid from *Anisotome lyallii*

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The diterpene acid 1 was isolated from the roots of *Anisotome lyallii*(Apiaceae/Umbelliferae). The structure of the compound was elucidated as anisotomenoic acid 1 on the basis of spectroscopic method. This compound was evaluated against p388 murine leukaemia and B16/F10 melanoma cells.

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### Sauchinone inhibits iNOS, TNF- $\alpha$ and COX-2 induction by LPS

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Sauchinone, a lignan isolated from *Saururus chinensis* (*Saururaceae*), is a diastereomeric lignan with cytoprotective and antioxidant activities in cultured hepatocytes. The effects of sauchinone on the iNOS, TNF- $\alpha$  and COX-2 gene expression and on the activation of transcription factors, NF- $\kappa$ B, C/EBP, AP-1 and CREB were determined in Raw264.7 cells as part of the studies on its anti-inflammatory effects. Expression of the iNOS, TNF- $\alpha$  and COX-2 genes was assessed by Northern and Western blot analyses. Sauchinone inhibited the induction of iNOS, TNF- $\alpha$  and COX-2 by LPS (IC<sub>50</sub>≤10  $\mu$ M) with suppression of the mRNAs. To identify the transcriptional factors affected by sauchinone, the extents of NF- $\kappa$ B, C/EBP, AP-1 and CREB activation were measured. Activation of the transcription factors was monitored by gel mobility shift assay, whereas p65 and I- $\kappa$ B $\alpha$  were analyzed by immunocytochemical and immunoblot analyses. Sauchinone (1-30  $\mu$ M) inhibited LPS-inducible nuclear NF- $\kappa$ B activation and nuclear translocation of p65, which was accompanied by inhibition of I- $\kappa$ B $\alpha$  phosphorylation. LPS-inducible increase in the intensity of C/EBP binding to its consensus sequence was also inhibited by sauchinone. The AP-1, but not CREB, DNA binding activity was weakly inhibited by sauchinone. These results demonstrate that sauchinone inhibits LPS-inducible iNOS, TNF- $\alpha$  and COX-2 expression in macrophages through suppression of I- $\kappa$ B $\alpha$  phosphorylation and p65 nuclear translocation and of C/EBP and/or AP-1 activation, which may constitute anti-inflammatory effects of the lignan.(Supported by the fund of Plant Diversity Research Center of the 21st Frontier Research Program, PF2-4)