SB31, an extract of *Pulsatilla koreana*, has been tried as an antitumor agent by traditional medicine pratitioner in Korea for the past 30 years.
SB31 was evaluated for cytotoxic and antitumor activity against a variety of cancer cell lines. The SB31 exhibited 5-6 fold less cytotoxic activity against normal mononuclear cells (ED_{50}, 1.1 mg/ml) than against cancer cell lines (ED_{50}, 0.14 - 0.19 mg/ml).
SB31 exhibited significant antitumor activity at a dose of 0.3 ml/20g against two transplantable murine tumor model, Sarcoma 180, and Lewis lung carcinoma (LLC) with inhibition ratio of 50.1 %, 65.8 % respectively.
SB31 when adminstered i.p. at a dose of 0.2 ml/20g, showed more potent antitumor activity on human NCI-H23 lung, HT-29 and COLO205 colon tumor xenografts in nude mice with inhibition ratio of 86 %, 73.7 % and 76.9 % respectively than that of Adriamycin (62 %, 63.3 %, and 40.4 %) used as a positive control.
SB365, active component, was isolated from the extract of *Pulsatilla koreana* by in vivo antitumor assay-guided separation. SB365 did not show significant cytotoxic activity against a variety of human tumor cell lines at 10 μg/ml, while exhibited potent antitumor activity at a dose of 6.4 mg/kg on BDF1 mice bearing LLC cells with inhibition ratio of 82.9 %. This result indicate that the SB365 might be a suitable candidate as an ideal anticancer agent.
Phase II clinical trial of SB31 and preclinical trial of SB365 are currently underway.

[OD-7] [10/18/2002 (Fri) 16:30 - 16:40 / Hall B]

Identification of a new analogue of sildenafil from functional food for penile erectile dysfunction

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Any food additive as a chemical synthetic compound, whose criteria and standards are not notified publicly and foods using an food additives containing such a chemical synthetic compound or foods containing it shall not be sold, or manufactured, imported, processed, used, prepared, stored, transported, or displayed for the purpose of sale. Some food manufacturers have illegally added drugs to foods not notifying this. Moreover, structure-modified new drugs could be added. But it is almost impossible to detect these by ordinary laboratory inspection. Thus the study about the identification of analogues of pending drugs is imminent.
This study deals with a new analogue of sildenafil which was illegally added to some functional food for penile erectile dysfunction. Its structure was established by various NMR spectroscopic techniques (including DEPT, COSY, TOCSY, HMQC, HMBC) and HRFABMS. Because of additional methylene group to sildenafil, it was given the name homosildenafil, and this has never been reported previously.

[OD-8] [10/18/2002 (Fri) 16:40 - 16:50 / Hall B]

Simultaneous Profiling Analysis of Urinary Organic Acids and Amino Acids by Gas Chromatography and Gas Chromatography-Mass Spectrometry for Biochemical Diagnosis of Inherited Metabolic Disorders

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An efficient method for the simultaneous profiling analysis of organic acids and amino acids combined with a simple graphic pattern recognition method was developed for more objective diagnosis of organic acidurias and amino acidurias. In this method, extractive ethoxycarbonly (EOC) reaction of amino and sufhydry groups with ethyl chlorofomate was followed by methoxime (MO) formation of carbonyl group in aqueous solution. Following acidification, the resulting N(O,S)-EOC amino acids and organic acids were recovered by solid-phase extraction using Chromosorb P in normal phase partition mode, with subsequent tert.-butyldimethylsilyl (TBDMS) derivatization of carboxyl and remaining polar groups for the direct gas chromatographic (GC) analysis. The method was validated with excellent linearity ($r \geq 0.995$), with good overall precision (% RSD <10%), and satisfactory recovery of organic acids (>60%). The present profiling analysis of urinary organic acids and amino acids combined with simple I spectral and star symbol pattern recognition methods is expected to become an useful tool for diagnosis of inherited metabolic disorders.

[OD-9] [10/18/2002 (Fri) 16:50 - 17:00 / Hall B]

Depth-profiling of skin in the near infrared using fiber optic probes

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In previous study, we showed the feasibility of the in vivo use of portable near infrared system for the determination of human skin moisture. In order to optimize the acquiring condition of NIR spectrum of skin, skin depth profiling was investigated changing the distance and gap size between illumination and receiving of radiation in the terminal of fiber probe. The colleted light information could be controlled depending the distance and gap of fiber optic probe. It was confirmed that the longer distance we used, the deeper site from the skin surface we could get information from. Four kinds of probes with distances such as 0.03 mm, 0.1 mm, 0.5 mm, and 1.0 mm were used. In addition, the gap size from 0.3 mm to 3.0 mm was studied to control the intensity of water absorbance effectively and to avoid saturation of water absorption. We also investigated the reference materials depending the reflectance ratio for water absorption not to be saturated because of the strong absorptivity of water. This study would be great help to condition the acquiring of NIR spectrum for the non-invasive blood components monitoring as well as human skin moisture.

[OD-10] [10/18/2002 (Fri) 17:00 - 17:10 / Hall B]

Comparison of isoBOC derivatives, TBDMS derivatives, with US EPA Method in the sensitivity of Alkylphenols, Chlorophenols, and Bisphenol A potential field-screening applications of GC/MS-SIM

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The alkylphenols, chlorophenols and bisphenol A were determined by gas chromatography/mass spectrometry-selected ion monitoring mode followed by three work-up methods for comparison; EPA method, isoBOC derivatization method and TBDMS derivatization method. Eleven phenols in water samples were extracted with dichloromethane. Also, solid-phase extraction (SPE) with XAD-4 and subsequent conversion to isobutoxycarbonyl derivatives or tert.-butyldimethylsilyl derivatives for sensitive analysis with the selected ion-monitoring (SIM) mode. The recoveries were 85.1 ~ 109.9 % (EPA method) and 90.3 ~ 126.6 % (isoBOC derivatization and TBDMS derivatization), respectively. The