A Series of Acetylenic Compounds and a Novel Pyridinium Alkaloid from the Stony Coral Montipora sp.

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Our studies on marine organisms for the investigation of cytotoxic agents have resulted in the isolation of a series of interesting acetylenic compounds from the methanolic extract of the stony coral *Montipora* sp. In our continuing study on the cytotoxic metabolites from the same coral, a series of acetylenic compounds and a novel pyridinium alkaloid have been isolated. The structures were elucidated based on the analysis of ^{1}H, ^{13}C NMR, and MS data. The nature of the isolated acetylenes was diverse comprising of montiporic acids and ester, α,β-unsaturated ketones, β-hydroxy ketones, cyclohexenone, and alcohols. However, all of them were saturated or unsaturated analogues of diacetylenes. Some of the acetylene compounds showed moderate to marginal cytotoxicity against a small panel of human solid tumor cell lines (A549, SK-OV-3, SK-MEL-2, XF498, and HCT15). One of the major analogues displayed inhibition on cell cycle and induced apoptosis in HCT cell.

[PD2-13] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

A New Spirobenzylisoquinoline Alkaloids from Corydalis ochotensis

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Previous studies on the chemical constituents of Corydalis ochotensis mainly dealt with the isolation of isoquinoline alkaloids such as ochotensine, yenhusomine, corytenchin and adlumidine. And raddeanamine, aobamine, protopine and dihydrosanguinarine were isolation from C. ochotensis var. raddeana. For the isolation of isoquinoline alkaloids, n-butanol and chloroform soluble fractions were examined. Investigation on the two fractions afforded a new spirobenzylisoquinoline alkaloid, 8-O-acetylcorysolidine along with two known spirobenzylisoquinoline alkaloids.

[PD2-14] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

A New Dicaffeoyl Quinic Acid of Ligularia fischeri var. spiciformis

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The plant Ligularia fischeri var. spiciformis (Compositae) is a candidate for the available functional food. We have reported the isolation of a new eremophilanolide named 6-oxoeremophilenolide and cytotoxic intermedeol from this plant. As this plant was known to have antidiabetic ability in

the folkloric society of Korea, we investigated the isolation of hydrophilic constituents. Chlorogenic acid (1), 3,4-di-O-caffeoylquinic acid (2), 5-O-[1-butyl]-3,4-di-O-caffeoylquinic acid (3) were isolated by combination of silica gel- and ODS column chromatography. The structure of 3 was determined by 1H-1H-, 1H-13C COSY, HMBC and FAB-MS spectra. Compound 3 has not been isolated before from a natural source.

[PD2-15] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Phytochemical Constituents of Actinidia arguta

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The root of Actinidia arguta was extracted with methanol and the methanol extract was suspended in H2O and successively partitioned with n- Hexane, CH2Cl2, EtOAc and n-BuOH. The repeated column chromatographic separation of the EtOAc extract resulted in the isolation of two flavonoids (compound 2 and 3) and two triterpenes (compound 1 and 4) and CH2Cl2 extract to afford three lignans (compound 5-7). Their structures have been established by spectroscopic methods

[PD2-16] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Antigenotoxic and Antimutagenic Activities of a New Component from the Starfish Asterina pectinifera

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>From the butanol fraction of the starfish Asterina pectinifera Muller et Troschel (Asteriidae), we have isolated a new component, 5α-cholest-7-en-3β-ol. Its antigenotoxic and antimutagenic activities were examined by the SOS chromotest with Escherichia coli PQ37 and by Ames test with Salmonella typhimurium TA1538, respectively. 5α-Cholest-7-en-3β-ol showed potent antigenotoxic activity against the mutagens, both MNNG(N-methyl-N'-nitro-N- nitrosoguanidine) and NQO(4-nitroquinoline N-oxide. For 100% of antigenotoxicity, the concentration of the compound applied against MNNG and NQO were 10μg and 5μg per reaction tube, respectively. Its antimutagenic activity with S. typhimurium TA1538 against the mutagen MNNG was very effective. When its concentrations were varied from 1 μg up to 10μg dose per plate, the inhibition ratio of revertant CFU(colony forming unit) of TA1538 per plate was increased accordingly, from 25.2% to 99.2%. These results suggest that 5 α-cholest-7-en-3β-ol possesses antigenotoxic and antimutagenic activity and might be useful as a chemopreventive agent.

[PD2-17] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Phytochemical investigation of node of the lotus rhizome (Nelumbo nucifera Gaertn.)

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