lipopolysaccharide (LPS). The results showed that most of compounds except 2',3'-dihydrobyakangelicin, reduced form of furan double bond in byakangelicin, inhibited weakly or moderately NO production. But, in case of the PGE_2 production, imperatorin, isoimperatorin, phellopterin, isooxypeucedanin and 2',3'-dihydrobyakangelicin exhibited potent inhibition of PGE2 production. Western-blot analysis revealed that 2',3'-dihydrobyakangelicin inhibited the expression of the inducible forms of cyclooxygenase (COX-2) protein in concentration dependent manner.

[PD1-26] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

New Cephalosporin Antibiotics with (5-Substituted-Isoxazol-3-yl)-3-Pyridiniummethyl Derivatives.

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The new cephalosporins with 3-isoxazolylpyridinium moiety exhibited well-balanced broad spectrum against Gram-positive and Gram-negative bacteria.
We found a moderate activity against Gram-positive and Gram-negative bacteria for simplified compound (1a), with unsubstituted isoxazole ring. The introduction of amino group (1b) beared fruitful *in improving the antibacterial activity against* Gram-positive and Gram-negative bacteria including P. aeruginosa. Activity of 1b exhibited similar to that of cefpirome.
The effect of substituents of heterocyclic ring to influence antibacterial activity against Gram-positive and Gram-negative bacteria should provide an important utility to the antibiotics arena

[PD1-27] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

New Cephalosporin Antibiotics with (5-Substituted-4,5-Dihydroisoxazol-3-yl)-1-Methyl-1,2,5,6-Tetrahydro-3-Pyridiniummethyl Derivatives

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The various (5-substituted-4,5-dihydroisoxazol-3-yl)-1-methyl-1,2,5,6-tetrahydro-3-pyridine derivatives possessing hydroxy, methyl hydroxy, alkoxy, methylthioether, thiophenyl group at the 5 position on 4,5-dihydroisoxazole ring were synthesized. These (5-substituted-4,5-dihydroisoxazol-3-yl)-1-methyl-1,2,5,6-tetrahydro-3-pyridine derivatives were coupled with cephalosporin moiety to produce new series of cephalosporin antibiotic and their antibacterial activity was inspected.
On the selected functionality of these SAR, 7-[(Z)-2-(2-amino-1,3-thiazol-4-yl)-2-(methoxyimino) acetyl]amino-3-[5-hydroxy-4,5-dihydroisoxazol-3-yl-(1-methyl-1,2,5,6-tetrahydro-3-pyridinio) methyl]-ceph-3-em-4-carboxylate can be regarded as the best compounds, when compared the others, showing a better balances between Gram- positive and Gram-negative bacteria. 4,5-dihydroisoxazol-3-yl-(1-methyl-1,2,5,6-tetrahydro-3-pyridiniummethyl cephalosporin with thiopheny substituents beared fruitful in improving the activity against Gram-positive bacteria.

[PD1-28] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Simulation for Effect of p3 Segment on Aggregation of Amyloid Peptide Using Cellular Automata

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Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by specific lesions in the brain. Some of the neuropathological features of this disease are found in Down's syndrome (DS), in hereditary cerebral hemorrhage with amyloidoses of the Dutch type, and to a lesser extent in normal aging of the brain. As AD is generated by amyloid precursor protein (APP), DS is also generated by APP. However, DS is governed by p3 segment, the product of APP mutation and cleavage, while AD is governed by amyloid β (Aβ). In amyloid process, α-cleavage induces the DS while β-cleavage, AD. In AD tissue it has been suggested earlier that A17-42 is a major component of preamyloid. In this paper, we simulated the mutation and cleavage of APP in DS using cellular automata (CAs).

Poster Presentations - Field D2. Pharmacognosy

[PD2-1] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Induction of apoptosis mediated by brominated stilbene analogs

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Base on the potential of resveratrol as a modulator of carcinogenesis by inhibiting metastasis or inducing apoptosis in cancer cells, twenty seven stilbene analogs were synthesized and evaluated for cytotoxic activity in cultured human cancer cells. Several compounds including 3,4,5-trimethoxy-4'-bromo-cis-stilbene (compound 1) were shown to be active. Prompted by the strong cytotoxic activity of 1 compared to its trans isomer and resveratrol, the action mechanism study were performed with compound 1 in cultured human colon cancer cells (Col2). Compound 1 induced accumulation in the sub-G0 phase DNA contents of the cell cycle by time- and dose-dependent manner. Colony forming activity and morphological changes were also consistent with the apoptotic phenomena. This result indicated that 1 induced apoptosis of cancer cells, and thus of interest to be a candidate for development of potential cancer chemopreventive or cancer chemopreventive agents.

[PD2-2] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Sapogenols from the fruits of Ternstroemia japonica Thunberg

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Ternstroemia japonica Thunberg is a plant growing in the southern part of Korea. Its fruits have been used for chest pain and numbness in traditional Japanese medicine. As the sapogenol constituents of leaves of this plant, oleanolic acid, prumulagenin A, camelliagenin A, and A1-barrigenol have been reported. As a series of study of chemical constituents of this plant, three new sapogenols (1, 2, 3)