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In a continuity of our search for a novel angiogenesis inhibitor(s) for anticancer therapy from natural sources, we have screened a large number of Vietnamese medicinal plants. It was found that seven out of fifty-eight of methanol extracts of Vietnamese medicinal plant materials showed strong to moderate antiangiogenic activity in vitro angiogenesis assay using HUVEC model. These plants include Ephedra sinica (herba), Ceiba pentandra (stem), Ceiba pentandra (leaves), Coix lachryma jobi (semen), Drynaria fortunei (rhizoma), Illicium verum (fructus), Illicium verum (stem), and Bombax ceiba (stem). Of these, the methanol (MeOH) extracts of Ephedrae sinicae herba, Ceibae pentandrae stem exhibited the strongest inhibitory effects on in vitro tube formation (inhibition ratios of 89.12 and 87.54 % at 30, and 100 ug/mL, respectively).

[PD1-27] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Study of the Amyloid Precursor Protein(APP) Changes in Transmembrane Domain Using Cellular Automata(CAs)

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Alzheimer's disease is caused by the penetration, aggregation and deposition of β-amyloid peptide(βAP). An βAP has the characteristics of amphiphilic peptide with a hydrophilic and a hydrophobic segment. This hydrophobic segment is C-terminus domain, which interacts with lipid membrane. The segment is located at the transmembrane domain of the amyloid precursor protein (APP). A βAP is formed after mutations and cleavages of an APP those are occurred in transmembrane. For this reason, the mutations and cleavages of an APP are very significant. In this study, we studied structure characteristics of an APP. Structural changes of an APP and formation of a βAP were simulated using cellular automata(CAs). In CAs simulation, large extracellular domain, transmembrane domain, and cytoplasmic tail were depicted by different colors. The mutation and cleavages were shown by other colors, also. From the results, it seems that CAs effectively simulated the phenomena in transmembrane domain.

[PD2-1] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

A Simple and Sensitive Enzyme-linked Immunosorbent Assay for the Determination of Ginsenoside F1

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Panax ginseng C. A. Meyer contains many kinds of glucosides of dammarane type triterpenes, protopanaxadiol (PPD) and protopanaxatriol (PPT), as main constituents. Ginsenoside F_1 ($G\text{-}F_1$), a PPT type saponin, was isolated from the leaves of this plant. In order to evaluate the quality of commercial ginseng extracts, a specific and highly sensitive ELISA of $G\text{-}F_1$ was explored.

High titer polyclonal antibodies were raised against $G\text{-}F_1$-BSA conjugate. The optimum antibody dilution for the assay was found to be 80,000-fold and 6 μ g/ml of $G\text{-}F_1$-ovalbumin was used for solid phase coating. The working range of this assay is 1.25 pg/well~ 125 pg/well. Cross reactivity of the antibody was investigated to determine its specificity.
As a result, the antibodies showed 34.79% of cross-reactivity with PPT, the aglycone of $G\text{-}F_1$.