Treatment of HL-60 cells with the flavonoids induced morphological changes that are characteristic of apoptosis. We judged the induction of apoptosis by the detection of DNA fragmentation in agarose gel electrophoresis and the degree of apoptosis was quantified by a double-antibody sandwich ELISA and by flow cytometric analysis. The C-3 hydroxyl and C-8 methoxyl groups were found not to be essential for the activity, but the C-3' methoxyl instead of hydroxyl group lowered the antiproliferative and apoptosis inducing activity. These results suggest that the polymethoxyflavonoids isolated from V. rotundifolia may be used as potential chemopreventive and chemotherapeutic agents.

[PA3-11] [04/21/2000 (Fri) 10:30 ~ 11:30 / [1st Fl, Bldg 3]]

Screening of natural product inhibitors on the UVB phototoxicity of Chlorpromazine

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15 natural products known to contain antiinflammatory effect were screened whether they have phototoxicity inhibitory effect or not by two methods - RBC photohemolysis test and yeast growth inhibition test using Candida albicans. Samples were obtained by the process of 80 % methanol extraction and then concentration under vaccum. And we made these concentration powder with freeze-dryer at -50~-60 ℃. In RBC photohemolysis method, effects of the test samples on RBCs were monitored with a spectrophotometer by the method of Kahan et al. And in the second method, we dissolved the samples in distilled water(1mg/ml)and injected 50 ㎕ into paper disks and paper disks absorbed 0.6 mg chlorpromazine(CPZ) in advance respectively. Controls were absorbed only CPZ. Diluted Candida albicans suspension was seeded on the Sabouraud's dextrose agar plate, and then the paper disks were located on the plates. The plates were exposed to 2.0 J/cm2 of UVB(312 nm), and futher incubated at 27 ℃ for 24 hr. The diameters of inhibition zones formed around the disks were measured.

[PA3-12] [04/21/2000 (Fri) 10:30 ~ 11:30 / [1st Fl, Bldg 3]]

The Antiplatelet Mechanism of (-)-Epigallocatechin Gallate: Effect on extracellular calcium mediated aggregation

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We previously reported the antithrombotic and antiplatelet activities of green tea catechins (GTC) and (-)-epigallocatechin gallate (EGCG), a major compound of GTC.
EGCG inhibited the aggregation of platelets in vitro and ex vivo, and prevented pulmonary thrombosis in vivo. EGCG inhibited the GPIIb/IIIa-fibrinogen binding, IP3 formation, ATP release, but elevated the cAMP level.
In the present study, the effects of EGCG on extracellular calcium mediated aggregation induced by thrombin, collagen and A23187 were examined.
In the presence of EGTA, human washed platelet (WP) aggregation was suppressed in response to thrombin, collagen and A23187, respectively. And the platelet aggregation induced by addition of CaCl2 was inhibited by EGCG in a concentration-dependent manner. A23187 can penetrate membranes and directly mobilize Ca2+ from intracellular stores, thereby increasing the cytosolic Ca2+ concentration. To investigate Ca2+ influx and release, the aggregation was induced in the presence of 1 mM CaCl2, Ca2+-free medium and 0.5 mM EGTA-treated WP was also tested. The Ca2+-free WP was incubated in 37℃ for 3 minutes and then induced by 1μM A23187. At the same time, the prepared Ca2+-free WP was added with 1 mM CaCl2 and incubated for 30 minutes at room temperature. The 0.5 mM EGTA-treated WP was prepared by addition of 0.5 mM EGTA in