Chinese formulation, inhibited the intimal thickening in carotid artery after balloon injury in cholesterol-fed rats. To elucidate its mechanism, the effects of SRB on migration and proliferation of vascular smooth muscle cell (VSMC) were examined in vivo and in vitro.Methods: < In vivo-study> Rats were fed on diet containing 1% cholesterol and SRB 3 days before and 4 days after denudation. Simvastatin was used as a positive control. 1) VSMC migration: By immuno-histochemical method, migration index was calculated: (Immuno-positive VSMC in intima) x 100 / (total VSMC in intima). < Ex vivo- and in vitro-study >VSMC (rat thoracic aorta SMC:A7r5) was cultured in DMEM containing 10% FBS. 1) VSMC migration: Modified Boyden chamber method: a) the addition of the serum obtained from cholesterol-fed rats orally administered SRB for 10 days (ex vivo "sero-pharmacology") and b) the direct addition of SRB extract to 10% rat serum (conventional in vitro). 2) VSMC proliferation: MTT colorimetric dye reduction method. 3) Cell cycle: VSMC was incubated in the direct addition of SRB extract and stained with PI in the presence of RNase and then stained cells were analyzed by flow cytometry. Results & Discussion: 1) SRB inhibited VSMC migration from the media to the intima in carotid artery 4 days after injury (in vivo). 2) The serum obtained from rats administered SRB also inhibited VSMC migration (ex vivo). This "sero-pharmacological" effects using SRB-serum on VSMC migration might be closer to the results obtained by in vivo experiments. 3) SRB inhibited VSMC migration and proliferation, and caused at the G_2/M cell cycle arrest (200-800 μg/ml: in vitro). It was found that SRB reduced the intimal thickening by inhibiting VSMC migration and proliferation. These results suggest that SRB may be a promising candidate as a clinical therapeutic strategy in atherosclerosis prevention.

[PD3-3] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

DMNQ S64 exerts antitumor activity on A549 cells via COX-2 inhibition

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We synthesized naphthazarin derivatives from shikonin, a major compound from Lithospermum erythrorhion Sieb et ZUCC. Of derivatives, DMNQ S64, 2- or 6-(1-hydroxyiminoalkyl) effectively showed antitumor activity on A549, human lung cancer cells (IC_{50}= 30 μM). It significantly inhibited prostaglandin E_2(IC_{50}= 10 μM). We also confirmed it selectively downregulated the expression of cyclooxygenase 2(COX-2), while it didn't affect COX-1. The induction of apoptosis by DMNQ S64 is underway.

[PD3-4] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Effects of Houttuynia cordata Thunb on Atherosclerosis and Lipidperoxidation in 2,3,7,8-TCDD-Damaged Rats

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TCDD (2,3,7,8-tetrachlorodibenzo-p-dioxin), one of the notorious toxic environmental pollutants, damages various organs including liver and is regarded as an endocrine disrupter. To investigate the effects of Houttuynia cordata Thunb (HCT) on the biochemical parameters of function, liver and serum of TCDD-treated rats were used. After 7 days from TCDD (1 ㎍/kg) injection, HCT (200 ㎎/kg) was administered into rats intraperitoneally for 4 weeks. The lipidperoxide content was examined by measuring the level of total cholesterol, HDL-cholesterol, LDL-cholesterol, total lipid and triglyceride (TG) in serum, and malondialdehyde (MDA) in liver tissue of rats. Result showed that lipidperoxidation was inhibited in the significant level when 2,3,7,8-TCDD-Damaged rats were treated with HCT.

[PD3-5] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Seasonal Variation of Loganin from Lonicera japonica Thunb.

Chung Sunghyun°, Yim Dongsool, Lee Sookyeon