The above result are suggestive that higenamine has therapeutic potential for DIC or MOF.

[PA1-18] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Biological activities of Peptidoglycan (PGGL8) from Ganoderma Lucidum

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The peptidoglycan (PGGL8) were extracted by 8% NaOH from the residue after water fraction of the fruiting bodies of Garnoderma lucidum and aldo the biological activities were investigated. The alkali-extracted peptidoglycan showed antioxidant action through the inhibition of the lipid peroxidation induced by ascorbate/Fe2+ and ADP/Fe3-, NADPH.
The peptidoglycan showed antimicrobial activity on Gram(+) bacteria, especially on Propionebacterium acnes (ATCC 11827,6919) at the concentration of 5 mg/ml in MIC test. Also, the peptidoglycan exhibited immuno-stimulating effect through the release of NO by activation of macrophage against antimicrobials. Meanwhile, the peptidoglycan (500 mg/kg) inhibited 30-50% of capillary permeability induced by acetic acid. And the peptidoglycan inhibited the vasorelaxation induced by acetylcholine and histamine, which were endothelium dependent vasodilator, but did not affect the vasorelaxation induced by isoproterenol, which was endothelium nondependent vasodilator. The peptidoglycan resulted the vasoconstriction in the endothelium disrupted thoracic aorta of rats.
These results would suggest that the alkali-extracted peptidoglycan of Garnoderma lucidum had the skin protective effects through the antioxidant, anti-microbilal and anti-allergic actions.

[PA1-19] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Cytotoxicity and antimicrobial effects of the methanol extract of Sophora flavescens Ait. (III)

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This study was carried out to evaluate cytotoxicity of the methanolic extract from Sophora flavescens Ait. against L1210 (lymphocytic leukemia) and P388D1 (lymphoid neoplasma) Cells in vitro. We have determined cytotoxicity by MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide)assay. The order of cytotoxicity of Sophora flavescens Ait. extract against L1210 and P388D1 cells in vitro is as follows : AM > Fr. 5 > Fr. 4 > Fr. 6 > Fr. 7 > Fr. 10 > Fr. 8 > Fr. 3 > Fr. 2 > Fr. 1 > Fr. 9 and AM > Fr. 5 > Fr. 4 > Fr. 10 > Fr. 6 > Fr. 8 > Fr. 2 > Fr. 7 > Fr. 9 > Fr. 3 > Fr. 1. These results suggest that the fraction 5 of the methanolic extracts of Sophora flavescens Ait. may be a valuable choice for the development of antitumor agents.
In order to develop an antimicrobial agent, dried Sophora flavescens Ait. was extracted with methanol, and then antimicrobial activity was investigated. The minimum inhibitory concentration (MIC) of the extracted substance against microorganisms, were also examined. The fraction 6 of the methanolic extract of the roots of S. flavescens showed strong growth inhibition activity against gram-positive bacteria and gram-negative bacterium (MIC, 6.25 - 12.5 μg/ml) such as B. subtilis, S. aureus, M. luteus and P. aeruginosa. Among gram-positive bacteria and gram-negative bacteria tested, S. aureus, B. subtilis and P. aeruginosa were the most susceptible to the extracted

substance, The antimicrobial activity of fraction 6 of the methanol extract from the sample had strong growth inhibition activity gram-positive bacteria and gram-negative bacteria such as S. aureus, B. subtilis and P. aeruginosa (MIC, 6.25 μg/ml).

[PA1-20] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Pharmacological studies on the efficacy and safety for the therapeutic drugs of liver diseases. - Effect on the Lipocyte activation

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These studies were conducted to evaluate in vitro the efficacy of the Yinchinho- Tang, herbal medicine used to treat liver diseases. When it comes to the chronic liver diseases, it usually progress to cirrhosis through fibrosis. Hepatic lipocytes are the primary extracellular matrix-producing cells in liver fibrosis. During the development of liver injury, they undergo activation, which is a process characterized by cell proliferation, morphological transformation into myofibroblast-like cells and synthesis of excessive extracellular matrix components. We established a cell culture model of lipocyte activation, which can be mimicked by cells grown on uncoated plastic plate. In this study, cell proliferation was assessed by brdU incorporation into DNA and transformation was done by expression of smooth muscle-specific α-actin(α-SMA). Yinchinho-tang significantly inhibited lipocyte proliferation in dose-dependent manner, and markedly reduced α-SMA expression. Gardeniae fructus remarkably suppressed proliferation in dose-dependent manner, but it increased α-SMA expression. Artemisiae capillaris herba significantly inhibited proliferation under the conc. of 500㎍/㎖, but enhanced it in 2000㎍/㎖. Rhei rhizoma didn't have any effect on proliferation. In summary, we have clarified effects of yinchinho-tang on liver fibrosis and suggest that this effect is related with inhibition of lipocyte activation.

[PA1-21] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Anti-angiogenic activity of Korean Mistletoe(Viscum album var. coloratum)

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Extracts of white berry European mistletoe(*Viscum album* L.) are widely applied the treatment of various human cancers as a supplement therapeutic agent. It was reported that mistletoe extract induces apoptotic killing of cultured tumor cells and lymphocytes, stimulates the immune system, and protects DNA from the side effects caused by chemotherapy and radiation. Korean mistletoe lectin(KML) from this plant was isolated by affinity chromatography using asialofetuin immobilized Sepharose 4B. The molecular weight determined by SDS-PAGE was 60 kDa which consisted of a 31.5 kDa of A-chain and a 34.5 kDa of B-chain. We investigated the anti-angiogenic effect of water extract of Korean mistletoe(WKM) and Korean mistletoe lectin(KML) by chorioallantoic membrane(CAM) of growing chick embryos.
WKM and KML showed anti-angiogenic activityat at 0.25ug/ul and 0.025ug/ul, respectively. In addition, anticancer activities of WKM and KML on the proliferation, motility and invasion of human cancer cells were observed.

[PA1-22] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]