

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 *Ganoderma lucidum* and also 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 *Propionibacterium 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 *Ganoderma lucidum* had the skin protective effects through the antioxidant, anti-microbial and anti-allergic actions.

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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