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RI-07

Serum Levels of Osteopontin and Matrix Metalloproteinase-3 in Systemic Lupus Erythematosus (SLE). Ou Jin, Albert Chan, Temy Mok, CS Lau. Department of Medicine, The University of Hong Kong, Queen Marry Hospital, Hong Kong

Introduction: Osteopontin (OPN) has been suggested to contribute to renal injury through its ability to enhance chemotaxis. This, and the discovery that OPN is a substrate for matrix metalloproteinase-3 (MMP-3), the expression of both of which have been shown to be increased in experimental lupus mice led us to investigate their roles in SLE

Method: Serum levels of OPN and MMP-3 were measured by ELISA. 5 groups of subjects were studied: *Group 1*: healthy controls; *Group 2*: SLE patients with SLE disease activity index (SLEDAI) ≥4; *Group 3*: SLE patients with SLEDAI<4; *Group 4*: SLE patients with a past history of renal disease; *Group 5*: SLE patients with no history of renal disease.

Results: Patients with SLE had higher serum levels of OPN and MMP-3 than controls. Those with a past history of renal disease had the highest OPN levels (vs Group3, $p<0.01$; vs Group 5, $p<0.001$). Serum levels of MMP-3 were significantly elevated in patients with active disease (VS Group 3, $p<0.001$) and previous renal complications (vs Groups 3 and 5, both $p<0.05$). Serum levels of OPN correlated significantly with those of MMP-3 ($r=0.46$, $p<0.01$, $n=93$).

	Group 1	Group 2	Group 3	Group 4	Group 5
OPN (ng/ml)	612.7±177.9	970.0±444.4	874.4±444.5	1061.6±538.2	816.9±408.1
MMP-3 (ng/ml)	64.6±39.4	397.3±438.5	215.1±208.0	321.6±349.5	200.6±207.4

Conclusion: The highest serum levels of OPN observed in patients with renal disease suggests OPN may have a pathogen role in SLE renal injury. Increased serum levels of MMP-3 in SLE patients with active or renal disease, and their positive correlation with those of OPN confirmed the regulatory role of MMP-3 in OPN bioactivity, as well as its possible role in lupus nephritis.

RI-09

Immunomodulatory activity of *Pestalotiopsis* sp., an endophytic fungus from *Tripterygium wilfordi*.

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Endophytic fungi from medicinal plants (fungi living within the plants) are a potential source of a diverse array of bioactive metabolites which can be used for the development of drugs and as research tools. In this study, we screened fungal endophytes from the Chinese medicinal plant, *Tripterygium wilfordii*, for bioactive compounds. The whole culture extracts of 62 fungal isolates selected from the representative genera were screened for effects on phytohemagglutinin (PHA) stimulated human peripheral blood mononuclear cells (PBMC) proliferation. Antiproliferative activity was found from the culture extracts of 11 fungal species (17.7%) of the selected endophytic isolates. Among these fungal extracts, *Pestalotiopsis leucothës*, *Mucor* sp., *Verticillium* sp. and *Pestalotiopsis disseminata* inhibited the proliferation in a dose-dependent manner at doses between 0.12 to 500 μg/ml ($P<0.001$-0.05). The 50% inhibition concentration (IC_{50}) values of these four fungal extracts are in the range of 0.75-0.8±0.12 μg/ml with no cytotxicity at 125 μg/ml. Culture broth and mycelial extracts of *P. leucothoës* were subjected by column and thin layer chromatography because of their profound immunosuppressive activity. The bioassay guided fractionation of *P. leucothës* extracts shows that the two fractions PLM15-17 and PLB33-36 from mycelial and broth extracts respectively were inhibitive in both LP and mixed lymphocyte reaction (MLR) when PHA and phorbol 12-myristate 13-acetate (PMA)/ionomycin were used as the mitogens. Cell viability was not affected at the immunosuppressive concentrations of these fractions. Furthermore, these fractions significantly reduced the human IgG synthesis in PHA stimulated PBMC in a concentration-dependent manner (5-15ng/mL). These fractions also significantly reduced the T-cell subpopulations (T-helper and suppressor) when analysed by CD3+/CD4+/CD8+ markers using a flow cytometry. These results indicated that PLM15-17 and PLB33-34 have immunomodulatory effects but neither was cytotoxic on PBMC. These column fractions are being subjected for further purification and structural elucidation by HPLC and Mass and NMR spectral analysis.