Abstracts

Background and aims V82 T cells have predominantly been investigated in tumour immuno-surveillance and the host defense against viral invasion. The precise role of V82 T cells in the pathogenesis of SLE remains elusive.

Methods We measured the proportion of peripheral V82 T cells as well as the status and chemokine receptor expression profiles in SLE patients and healthy control (HC). In addition, V82 T cell infiltration in the kidneys of patients with lupus nephritis was examined.

Results The percentage of peripheral V82 T cells in new-onset SLE was decreased, and negatively correlated with the SLE Disease Activity Index score and the severity of proteinuria. These cells had a decreased apoptosis but an increased proliferation, and they showed increased accumulation in SLE kidneys. Moreover, IL-21 production and CD40L, CCR4, CCR7, CCR8, CXCR1 and CX3CR1 expression in V82 T cells from SLE patients was significantly higher than from HC (p<0.05), and these factors were down-regulated in association with the repopulation of peripheral V82 T cells in patients who were in remission (p<0.05). In addition, anti-TCR V82 antibodies activation significantly upregulated these chemokine receptors on V82 T cells from HC, and this effect was blocked by inhibitors of PLC-γ1, MAPK/Erk, and PI3K signalling pathways.

Conclusions The distribution and function status of V82 T cells from SLE patients are abnormal, and these aberrations may contribute to disease pathogenesis.

100 DEPLETION OF PLASMACYTOID DENDRITIC CELLS WITH JNJ-56022473 MINIMISES INDUCTION OF AN INTERFERON GENE SIGNATURE IN RESPONSE TO TLR9 AND SLE IMMUNE COMPLEX STIMULATION

K Monaghan*, T Jordan, T Sato, M Cesaroni, J Benson, M Ng, M Brando, E Morand, A Hoi, N Wilson. CSU Ltd, Melbourne, Australia; Janssen Research and Development LLC, Springhouse, USA; Monash University, Department of Medicine, Melbourne, Australia

Background and aims Glucocorticoid-induced Leucine Zipper (GILZ) is a GC-inducible gene with multiple immune-regulatory functions, and GILZ deficiency in mice results in the development of a lupus-like phenotype. In Systemic Lupus Erythematosus (SLE), plasmacytoid dendritic cells (pDCs) are major producers of Type 1 interferons (IFNα) in response to nucleic acid-containing immune complexes. GILZ inhibits activation of B cells, T cells and other myeloid cells and we studied whether GILZ regulates interferon secretion by pDC.

Methods We conducted a study of GILZ expression in human peripheral blood mononuclear cells in-vitro and in-vivo study in GILZ KO mouse model to analyse the regulatory function of GILZ.

Results Our data suggests that loss of GILZ up-regulates type 1 IFN production by pDC in response to TLR7 and TLR9 stimulation. Basal GILZ expression was lower in pDCs than in other myeloid cell types and the relative deficiency of GILZ expression in pDC may predispose these cells to rapid activation and interferon production in SLE. Moreover, GILZ appears to be rapidly downregulated by type 1 interferons and in SLE patients, the level of GILZ, normalised by prednisolone dose, negatively correlated with SLEDAI. Thus, down-regulation of GILZ by type 1 interferon may allow heightened interferon release by pDC, and this mechanism potentially leads to amplification of inflammation and cyclical disease flare-ups in lupus patients.

Conclusions Restoration of GILZ may be a potential therapeutic strategy that could reduce the GC dependence in SLE, a strategy that is appealing since GILZ has thus far not recapitulated any of the metabolic effects of GC.

101 GILZ REPRESENTS A CHECKPOINT LIMITING CYCLICAL EXACERBATION OF INFLAMMATION IN SLE BY TYPE I INTERFERON

C Nataraja*, S Jones, E Morand. Monash Health, Medicine, VIC, Australia

Background and aims Systemic Lupus Erythematosus is an systemic autoimmune inflammatory disease where therapeutics are associated with various side effects. As dietary factors have been associated in the prevention of different diseases this study aimed to exploit resveratrol, a polyphenol derived from peanuts, grapes, etc as a dietary factor supporting therapeutics by using its antioxidant properties in the management of oxidative stress in a pristane induced murine model of lupus.

Methods The model was established by injecting 0.5 ml of pristane intra-peritoneally and oxidative stress was assessed

102 INHIBITORY EFFECT OF RESVERATROL ON OXIDATIVE STRESS IN MURINE MODEL OF SYSTEMIC LUPUS ERYTHEMATOSUS

N Pannu*, A Bhatnagar. Panjab University, Biochemistry, Chandigarh, India
after 6 months. 25 mg/kg body weight of resveratrol was given orally after 2 months of pristane administration daily for the next 4 months.

**Results** The increased level of reactive oxygen species (Mean Fluorescence value at 0 month: 1.70±0.22 to 4.89±1.37 at 6 months) in peripheral blood mononuclear cells in the model decreased significantly after resveratrol treatment (1.75±0.21). Pristane treatment decreased the activity of antioxidant enzymes like Catalase in lungs, Superoxide Dismutase in lungs and spleen and Glutathione peroxidase in liver and lungs. Resveratrol increased the activity of all these enzymes and a significant increase was observed in the activity of Superoxide Dismutase in lungs. Pristane treatment decreased the levels of reduced glutathione and increased lipid peroxidation in kidneys, liver, lungs and spleen. Resveratrol treatment restored reduced glutathione level and decreased lipid peroxidation.

**Conclusions** In conclusion this study states that, the consumption of resveratrol helps in better management of the disease by combating oxidative stress, the root cause of different manifestations observed in lupus.