001 Lymph node–fibroblastic reticular cells regulate differentiation of T4 C cells through CD25

D Kim1,2,3, E Boilard1 and P Fortin1

V activation as well as the development and keratinization of epidermis by RNA sequencing.

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LNs, they also play an important role in the interaction between T cells and antigen-pre-

manifestations were crude. This work will lead us to implement better physician’s evaluation

questionnaires, SLICC Classification Criteria and revised ACR Criteria for SLE. Three main

chondrial autoantibodies (AMA). In the current study, we investigated the clinical utility of

systemic autoimmune diseases, were constructed to analyse their association with the studied

n, SVN Kwon, J Sohn2, Y Lee1, Y Dzom and T I 1 Dermatology, Union Hospital, Tongji Medical

College, Huazhong University of Science and Technology (HUST), Wuhan, China., Wuhan,

Acitretin (Act) is one of the first-line treatments for moderate to severe psoriasis, while the

ystemic side effects caused by Act greatly restrict its clinical application. Herein, we

veloped the Dextran-based Act nanoparticles (DANPs) and proved their enhanced thera-

t and Act molecules were linked by ester bonds to form a spherical nanostructure, and extra free Act molecules

were encapsulated. When injected in vivo, free Act will be soon released while the slow

imiquimod (IMQ)-treated mouse bone marrow-

inflammation by regulating immune and stromal components but also show a concomitant

inflammation by modulating early IL-2-mediated signaling of neighboring, naïve CD4 T cells, and thus influences the overall character of the immune

response.

Localized administration of methotrexate regulates psoriasis-like skin inflammation and protects from secondary sensitization at a distant site

H Du 1, J Lan 1, P Liu 1, J Zhu 1 and T I 1 Department of Dermatology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China and 2 School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan, China

Methotrexate (MTX), a first-line systemic agent for the therapy of psoriasis, is often associated with adverse effects. Localized transdermal delivery of MTX using dissolving microneedles (MNs) was demonstrated to be both more efficacious and better tolerated than oral admin-

istration in our previous work. This study aims to elucidate the detailed therapeutic mecha-

ism of MTX-loaded MNs and to explore whether topical MTX treatment can affect the

formation of skin lesion at distant parts of the body while attenuating local inflammation. In vitro experiments suggested that MTX effectively reduced the production of proinflammatory cytokines in IL-17A-treated HaCaT cells and imiquimod (IMQ)-treated mouse bone marrow-

ved dendritic cells (P < 0.001). Psoriasiform dermatitis was then induced on the left ear

skin of mice by topical IMQ application. Histological and immunohistochemical (Ki67,

CD11c and CD3) examinations showed much milder epidermal hyperplasia and inflamma-

ory infiltration upon MTX-loaded MNs treatment. We also found that MTX-loaded MNs

substantially downregulated leukocyte chemotaxis and migration, T cell proliferation and

activation as well as the development and keratinization of epidermis by RNA sequencing. Additionally, flow cytometric analysis indicated that the accumulation of IL-17A-producing

V+ Y T cells in MNs-treated left ear skin and the draining lymph nodes were both significantly inhibited (P < 0.001). Furthermore, the subsequent generation of psoriatic phenotype on the right ears by IMQ rechallenge was markedly restrained compared with untreated mice. In conclusion, MTX-loaded MNs can not only ameliorate local skin inflammation by regulating immune and stromal components but also show a concomitant antipsoriatic effect against recurrent immune disorders at a distant site, emerging as a po-

tential alternative topical treatment for psoriasis.

The association of platelet activation markers, neutrophil extracellular traps and anti-mitochondrial autoantibodies with cutaneous manifestations in Systemic Lupus Erythematosus

L Mainville 1, J Melki 1, Y Becker 1, A Julien 1, N Cloutier 1, E Rollet-Labelle 1, C Loup 1, E Biourgi 2 and P Fortin 1 Centre de recherche du CHU de Québec – Université Laval, Québec, Canada; 2 Département de mathématiques et statistique, Université Laval, Québec, Canada; 3 University of Washington, Seattle, Washington, United States

Systemic Lupus Erythematosus (SLE) is an autoimmune disease associated with platelet activation, formation of neutrophil extracellular traps (NETs) and development of anti-mito-

chondrial autoantibodies (AAMA). In the current study, we investigated the clinical utility of 

these markers and autoantibodies in cutaneous lupus manifestations. Clinical data on cuta-

neous manifestations were obtained in a large SLE cohort (n = 73) through review of SLE 

questionnaires, SLICC Classification Criteria and revised ACR Criteria for SLE. Three main 

outcome measures; cutaneous manifestations reported by physicians, by patients, and addi-

tional lupus manifestations, were constructed to analyse their association with the studied 

markers. In logistic regression analyses, NETs and antibodies to La/SSB were protective 

against “cutaneous manifestations reported by patients” (0.02 < P < 0.04) due to their effect on “rash other than on cheeks”. No statistically significant association was found between predictor variables and “cutaneous manifestations reported by physicians”.

IgG-bound DANPs on HaCaT cells. Compared to dextran and acitretin groups, DANPs showed more 

significant cytotoxicity to HaCaT cells (P < 0.01) and induced more significant apoptosis of 

HaCaT cells (P < 0.01). Overall, our work provided a new choice for psoriasis systemic 
treatment, with enhanced therapeutic efficiency and reduced the side effects.

004 Respiratory activity in psoriatic circulating T cells predicts the efficacy of apremilast

H Koguchi-Yoshida 1,2,3, R Watanabe 2, Y Matsumura 1, T Matsuoka 1, H Shimano 1 and J Tanaka 1

1 Dermatology, Osaka University, Suita, Osaka, Japan, 2 Dermatology, University of Tsukuba, Tsukuba, Japan and 3 Internal Medicine, Metabolism and Endocrino-

ology, University of Tsukuba, Tsukuba, Japan

While psoriasis is a Th17-mediated disease related with metabolic skews, the relation be-

tween T cell reactivity and cellular metabolism has not been fully evaluated in psoriasis. In 

this research, the metabolic condition of blood T cells were evaluated in 35 psoriatic patients by use of an extracellular flux analyzer. The impact of apremilast on cellular metabolic condition was also investigated in total 71 patients with psoriasis both in vivo and in vitro. The oxygen consumption rate (OCR) was significantly higher in blood T cells of psoriasis patients compared to healthy controls (p = 0.0014), and the patients with higher OCR achieved higher PASI improvement (p = 0.0022) and the in vitro inhibition or elimination of ROS led to the decline of cellular OCR. The superoxide dimutase was also upregulated by co-culturing the psoriatic blood T cells with 

apremilast (p = 0.0311). Of note, the T-cell OCR showed a mild correlation with the serum 

level of LDH in the patients with psoriasis (r = 0.3454, p = 0.0454), and the patients with higher serum LDH levels tended to be benefited more by apremilast (r = 0.4602, p = 0.0206). Our results indicate that the circulating T cells in psoriatic patients have higher metabolic activities with more oxygen consumption and ROS production. Our results also suggest that the OCR and possibly the serum LDH levels can be a predictor of treatment preference.

007 Indoleamine 2,3-dioxygenase 2 knockout exacerbates imiquimod-induced psoriasis-like skin inflammation

K Fuji 1, Y Yamamoto 2, K Saito 1 and M Shishima 1

1 Dermatology, Gifu University Graduate School of Medicine, Gifu, Japan and 2 Disease Control and Prevention, Fujita Health Uni-

versity Graduate School of Health Sciences, Toyoake, Japan

Idioleamine 2,3-dioxygenase 2 (IDO2) is an isoform of IDOs, recently identified catalytic enzyme in the tryptophan-

inhibition or elimination of ROS led to the decline of cellular OCR. The superoxide dimutase was also upregulated by co-culturing the psoriatic blood T cells with 

apremilast (p = 0.0311). Of note, the T-cell OCR showed a mild correlation with the serum 

level of LDH in the patients with psoriasis (r = 0.3454, p = 0.0454), and the patients with higher serum LDH levels tended to be benefited more by apremilast (r = 0.4602, p = 0.0206). Our results indicate that the circulating T cells in psoriatic patients have higher metabolic activities with more oxygen consumption and ROS production. Our results also suggest that the OCR and possibly the serum LDH levels can be a predictor of treatment preference.