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The presence of interleukin 18 binding protein autoantibodies and isoforms in Chinese patients with rheumatoid arthritis

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Objective: Human IL-18BP gene encodes at least four distinct isoforms (IL18BP α -d) derived by alternative splicing. Their presence in RA local inflammation is not yet examined. This study aimed to determine the messenger transcript and protein levels of IL-18BP isoforms in patients with Rheumatoid Arthritis (RA).

Materials: The study comprises 65 rheumatic patients, 22 Osteoarthritis (OA) and 40 sex and age matched normal controls (NC). Peripheral blood mononuclear cells (PBMCs) and synovial fluids mononuclear cells (SFMCs) were prepared by using Ficoll-Hypaque procedure. The expression and presence of different isoforms were determined by using real-time PCR and ELISA respectively.

Results: IL-18BP messenger transcript has been extremely expressed in synovial fluids (SF) and synovial tissues (ST) of RA patients compared to OA patients ($p < 0.001$). IL-18BP autoantibodies were noticed in RA plasma and SF (41.7%; 37.9%), in OA-SF (9.0%), and in plasma of NC (4.0%). Comparable to different isoforms, isoform "c" showed significant local expression ($p < 0.001$) in RA-SFMC and systematic expression ($p < 0.001$) between RA and NC-PBMCs, isoform "a" was least expressed. Isoform "c" and "d" proteins were solely detected by western blot in RA.

Conclusions: This study emphasizes the local existence of isoform "c" and "d" and the possible presence of autoantibodies against IL-18BP α in RA patients, which made a plea for further investigation, putting in place their actual role.

Biography

Khalid Eltahir Khalid, PhD, is affiliated as an Associate Professor of Biochemistry at the Department of Basic Medical Sciences, Faculty of Applied Medical Sciences, Albaha University, Saudi Arabia. He holds his BSc in Biochemistry from Omdurman Islamic University, Faculty of Basic Medical Sciences-Sudan, and PhD from Gezira University, School of Medicine and the Institute of Health Sciences, Shanghai Institute of Biological Sciences and Chinese Academy of Science, under supervision of Prof. Jingwu Z. Zhang, and his Post-doctorate in the Molecular Immunology of Leishmania at Sao Paulo University, School of Medicine, Department of Biochemistry and Immunology, under supervision of Prof. Joao Sanatana da Silva. He is a Faculty member at the University of Gezira, performed different activities at the Faculty of Medicine, National Cancer Institute (NCI), and Blue Nile Research Centre for Communicable Diseases (BNRCCD). He attended short courses in Molecular Biology, Immunology, and conducting seminars and teaching activities for under- and Post-graduate Medical students in Sudan. He has been awarded TWAS-CAS fellowship for PhD degree in China, and CNPq-TWAS Post-doctoral fellowship in Brazil. He is currently reviewer for *Gezira Journal of Health Sciences*, Member of the Brazilian Society of Immunology (Sociedade Brasileira de Imunologia (SBI)), and Trainee Member of Clinical Immunology Society (CIS). He has over 40 scientific papers published and attended several conferences and workshops abroad.

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