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## Transcellular distribution heterogeneity of Annexin A5 represents a protective response to lupus-related thrombophilia: A pilot proteomics-based study

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Lupus-related vascular events are becoming a formidable obstacle to the improvement of long-term prognosis of systemic lupus erythematosus (SLE) and the existent findings lack for systematization. Proteomics is a strategic approach but its applications in this regard are rare and primarily involve proteome acquisition or biomarker screening, rather than functional identification. To provide further insight, we investigated the proteomic diversity of peripheral blood mononuclear cells (PBMCs) in SLE and the possible role of the identified Annexin A5 (AnxA5) in pathogenesis. The study involved 214 SLE and 183 healthy women. The two-dimensional electrophoresis gel images showed  $649 \pm 25$  and  $676 \pm 19$  protein spots from the PBMCs of the patients and controls, respectively. From these protein spots, 30 differentially expressed proteins were chosen, and 16 of these proteins were identified by mass spectrometer. Western blotting confirmed the over-expressed candidate, AnxA5, from the PBMCs of the patients, but ELISAs indicated decreased levels of sera AnxA5 in the patients compared to controls. A positive correlation was demonstrated between the manifestation of thrombosis and AnxA5, not anti-AnxA5. The coagulation assays using plasma from SLE patients revealed that elevated AnxA5 could shorten prothrombin time, activated partial thromboplastin time and pro-longed thrombin time. Our data demonstrated the proteomic differences in the PBMCs between SLE patients and healthy persons. Moreover, the heterogeneous transcellular distribution, increased intracellular concentrations and decreased serum levels of AnxA5 represent a protective response to lupus-related thrombophilia. AnxA5 mostly participate in the common coagulation pathway in the thrombogenesis of SLE.

### Biography

Na Luo, MD, PhD is an attending doctor and instructor of Dermatology Faculty and Clinical Immunological Center of Southwest Hospital, Third Military Medical University (TMMU), China. She got Doctor Degree of Dermatology in TMMU in 2009. Dr. Luo mainly focuses on the pathogenesis of autoimmune diseases. She has published 9 papers in international journals and has compiled 4 monographs, and obtained a funding from Chinese Natural Science Foundation for the Youth in 2009. She got her visiting scholarship in Academic Medical Center, University of Amsterdam from 2012 to 2013. She has been the speakers on several international meetings from 2008.

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