

Global Experts Meeting on  
**STD-AIDS and  
Infectious Diseases**

&

12<sup>th</sup> International Conference on  
**Allergy, Immunology  
and Rheumatology**

November 21-22, 2019 | Singapore



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### **Using Protein Array to Search for Clinically Useful Biomarkers**

**D**iagnostic biomarkers are required for clinical practice in situations assessing patient disease status for optimal management. We used a cytokine/chemokine protein array to screen for novel biomarkers that were diagnostically useful. The array consists of over 250 antibody pairs directed at cytokines/chemokines. Clinical samples of blood, urine and vaginal fluid were collected and applied on the array for the screening process. By comparing to the control samples a panel of candidate proteins were selected from the patients for further evaluation using quantitative immunoassay. Based on the quantitative results, the candidates were then narrowed to 1-3 soluble proteins that were highly sensitive and specific for the disease diagnosis.

Using the protein array technology we have successfully identified biomarkers diagnostic for injuries in kidney transplant, prelabor membrane rupture, and preeclampsia. These biomarkers are IP-10 and Mig for kidney injury, sICAM-1 for prelabor membrane rupture, and adipsin for

preeclampsia. These biomarkers are assessed on urine or vaginal fluid samples, and are highly sensitive and specific for the disease diagnosis when applied to the patient management.

#### **Speaker Biography**

Huaizhong Hu serves currently as the general manager of the research institute at Beijing Konruns Pharmaceutical Company. Prior to Konruns He spent 10 years at Covance Laboratory and held senior scientific positions. Dr. Hu was a Lee Kuan Yew Research Fellow at the Department of Microbiology, National University of Singapore. He received his Medical Doctor Degree from West China University of Medical Sciences and subsequently his PhD from Utrecht University, The Netherlands. He was a Postdoctoral Fellow in immunology at the NIH where he successfully cloned and functionally evaluated a recombinant immunotoxin that has been developed and tested in a Phase II clinical trial for skin T cell lymphoma. He has authored over 60 publications in peer-reviewed international biomedical journals, and is an inventor of over 30 U.S., Europe and China issued or pending patents.

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