

# 3<sup>rd</sup> International Conference and Exhibition on **Clinical & Cellular Immunology**

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## **VISTA Deficiency synergizes with a non-redundant immune checkpoint pathway and leads to enhanced immune activation**

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V-domain Ig suppressor of T cell activation (VISTA) is a novel negative checkpoint ligand that suppresses T-cell mediated immune responses. Previous studies using VISTA-neutralizing monoclonal antibody show that VISTA-blockade enhances T cell-activation in an inflammatory disease model EAE, as well as in murine tumor models. Current study describes a comprehensive characterization of VISTA knockout (KO) mice. We show that despite the apparent normal hematopoietic development in young KO mice, VISTA genetic deficiency leads to a pro-inflammatory phenotype in aged animals, as well as enhanced T-cell activation in response to acute antigen immunization. In addition, we show that VISTA deficiency significantly enhanced disease development in a spontaneous model of autoimmune disease, which is correlated with the spontaneous activation of auto-antigen specific CD4<sup>+</sup> T cells. Lastly, when combined with the genetic deficiency of another checkpoint molecule, synergistic or additive immune activation was observed.

### **Biography**

Li Wang completed her PhD at Molecular and Cellular Biology Program at Dartmouth, and completed her Postdoctoral studies with Dr. Owen N Witte at UCLA, as well as with Dr. Randolph J Noelle at Geisel School of Medicine at Dartmouth. She made seminal findings of a novel immune checkpoint regulator, named V-domain Immunoglobulin Suppressor of T cell activation (VISTA). She joined the Department of Microbiology and Immunology as an Assistant Professor in 2012.

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