

**P070** The role of SIGIRR in Th2 response  
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A novel cytokine IL-33, an IL-1 family member, signals via ST2 receptor and promotes T helper type 2 (Th2) responses, through the activation of NF $\kappa$ B and MAP kinases. We previously reported that SIGIRR (single immunoglobulin IL-1R-related molecule) acts as negative regulator for TLR-IL-1R-mediated signaling. IL-33-induced Th2 responses were enhanced in SIGIRR-deficient mice as compared to that in wild-type control mice, suggesting a negative regulatory role of SIGIRR in IL-33/ST2 signaling. Consistent with this hypothesis, SIGIRR-deficient mice developed stronger Th2 immune response in OVA-challenged asthma model. While ST2 is a well-known cell surface marker for Th2 cells, SIGIRR is expressed in Th2 cells at significant levels. Importantly, SIGIRR-deficient Th2 cells produce higher levels of “Th2 cytokines”, including IL-5, IL-4 and IL-13 as compared to wild-type cells in response to IL-33 stimulation. Moreover, SIGIRR specifically inhibits IL-33/ST2-mediated signaling in cell culture model. Taken together, our results suggest that SIGIRR plays an important role in the regulation of Th2 response in vivo through its impact on IL-33-ST2-mediated signalling.