

Maddur M.S., Sharma M., Hegde P., Lacroix-Desmazes S., Kaveri S.V., Bayry J. (2012). Inhibitory effect of IVIG on IL-17 production by Th17 cells does not implicate anti-IL-17 antibodies in the immunoglobulin preparations. *J Clin Immunol.* 33, 62-66

PURPOSE:

Th17 cells and their cytokines play a critical role in the pathogenesis of various autoimmune and inflammatory diseases. Recently, we have demonstrated that intravenous immunoglobulin (IVIG) suppresses differentiation, amplification, and functions of human Th17 cells. In this report we investigated whether IVIG inhibits IL-17 production by Th17 cells cultured in the presence of IL-23 and whether the inhibitory effect of IVIG on IL-17 production implicates anti-IL-17 antibodies.

METHODS:

Naive CD4(+) T cells were stimulated in the presence of TGF- β , IL-21, and IL-23 for the differentiation of Th17 cells. Memory CD4(+) T cells were stimulated with IL-1 β , IL-6, and IL-23 for the amplification of Th17 cells. IVIG (0.15 mM) was added to the cells 12 h after initiation of cultures. IL-17A cytokine and anti-IL-17 antibodies were measured by ELISA.

RESULTS:

IL-23 did not deter the inhibitory effect of IVIG on IL-17 production from the differentiating and expanding Th17 cells. Further, suppression of IL-17 by IVIG did not implicate anti-IL-17 antibodies in the immunoglobulin preparations.

CONCLUSION:

The effect of IVIG on the inhibition of IL-17 production by Th17 cells is a consequence of modulation of Th17 cells and their intracellular signaling pathways and not due to passive neutralization of IL-17 by anti-IL-17 antibodies in the immunoglobulin preparations.