

Factors That Promote Th2 Dominance

The research on the following factors is described in the Cogence Immunology course. This summary is provided as a guide. Factors that deplete Th1 cells typically yield loss of the inhibition of Th2 effector cytokine production by Th1 effector cytokines. Thus, factors that yield loss of Th1 response tend to yield increased Th2 response and vice versa. It's also crucial to remember that Th1 and Th2 cells are only two of seven T helper cell types currently identified, and to remember that T helper cells are a part of a much larger picture. Each case needs to be evaluated individually.

Because inflammation, stress chemistry, and other factors on the list are common in patients with chronic illness, it's common for these patients to be Th2 dominant.

Mechanism	Loss of Th1	Activation of Th2
Inflammation >> MDSC formation	Th1 & NK Cell Apoptosis	
GI, sinus, lung epithelial inflammation		Cytokine &/or Mast Cell Activation
Excess ROS >> GSH Depletion	◆	
Environmental Allergies		IgE Mediated
Stress >> elevation of cortisol & / or NE	Th1 & NK Cell Apoptosis	
Advancing Age	◆	
EDC's / xenoestrogens / plastics	Loss of GSH	
Parasites		◆
Weak T cell receptor signaling		◆
Histamine >> Estrogen >> IL-4		◆
Concussion >> Stress Chemistry	Th1 & NK Cell Apoptosis	
Blue Light	Loss of Th1 Response	
Tissue Debris Abundance		◆