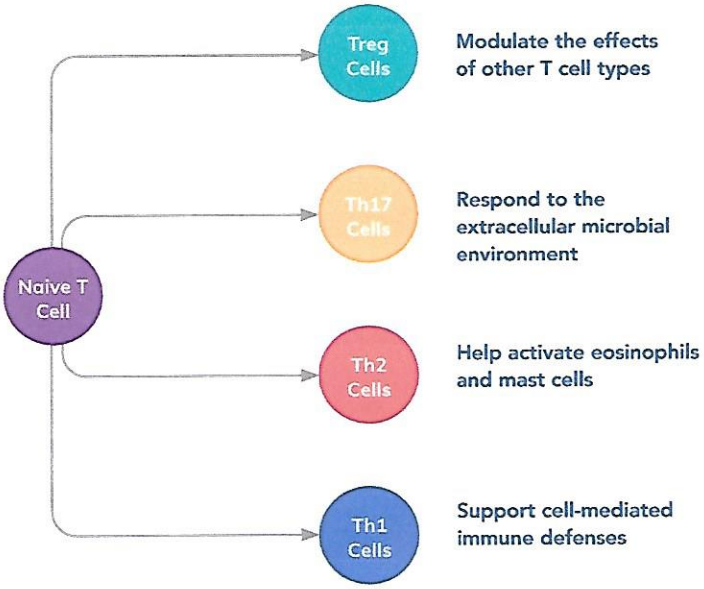
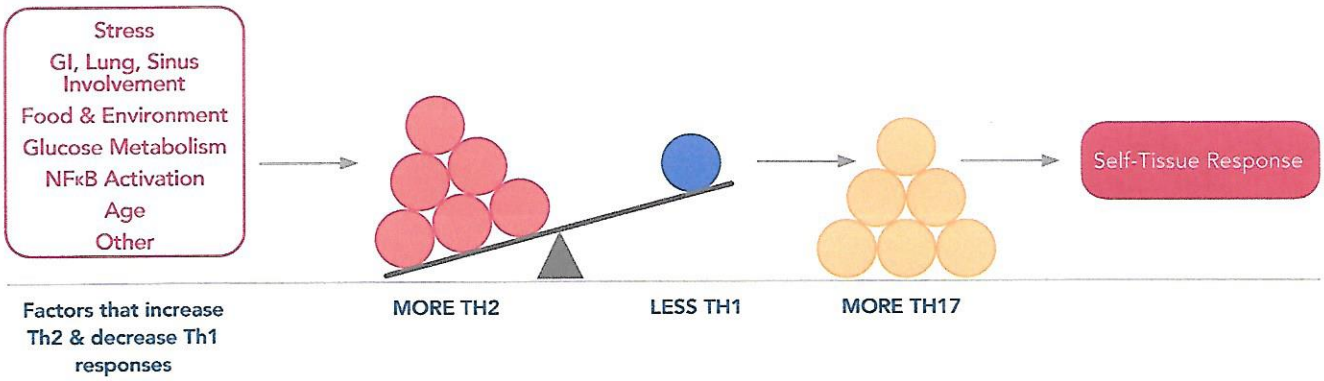
Key Mechanisms of Self-Tissue Response

1 Promote T-helper Cell Balance‡

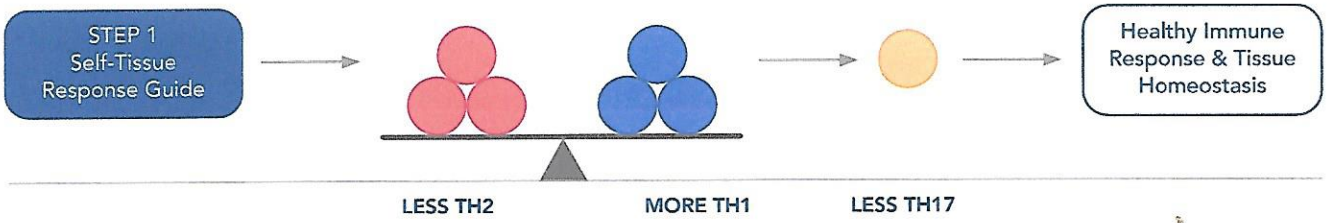


T-helper cells are a class of lymphocyte that help the immune system respond appropriately to different types of threats faced by the body. They begin as naive T-cells and become, when activated, unique T-helper cell types. Which type they become depends on cytokines and other factors in their micro-environment at the time of their activation.

A balanced profile of T-helper cells is crucial for immune defenses and tissue homeostasis. Unfortunately, many factors commonly seen in clinical practice can drive an imbalance in T-helper cell types. Often, this occurs as an increase in the number and activity of Th2 cells (Th2 response) and a decrease in the number and activity of Th1 cells (Th1 response). In turn, this imbalance leads to the expansion of Th17 cells, which, through a cascade of effects, can make the patient more susceptible to developing an immune response directed at self-tissue.



Step 1 of the Self-Tissue Response Guide is designed to support a balanced T-cell repertoire, which promotes both cell-mediated immune defenses and tolerance towards self-tissue.



1. Zhu J, Paul WE. Blood. 2008 Sep 1;112(5):1557-69.
2. Miossec P, Korn T, Kuchroo VK. N Engl J Med. 2009 Aug 27;361(9):888-98.
3. Barnes PJ, Karin M. N Engl J Med. 1997 Apr 10;336(15):1066-71.
4. O'Shea JJ, Plenge R. Immunity. 2012 Apr 20;36(4):542-50.
5. Maddur MS, Miossec P, Kaveri SV, Bayry J. Am J Pathol. 2012 Jul;181(1):8-18.
6. Steinman L. Nat Med. 2007 Feb;13(2):139-45.
7. Akdis M, Burgler S, Crameri R, et al. J Allergy Clin Immunol. 2011 Mar;127(3):701-21.e1-70.