

Signature ID'd for allergen-specific type 2 helper cells

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(HealthDay)—In research published in the Aug. 2 issue of *Science*

Translational Medicine, scientists have identified a human type 2 helper (T_H2) cell signature in allergen-specific T_H2 cells.

Noting that use of atopic disease-causing T [cells](#) as therapeutic targets and clinically useful biomarkers is limited by lack of an accepted methodology to identify and differentiate these cells from nonpathogenic T_H2 cell types, Erik Wambre, Ph.D., from the Benaroya Research Institute in Seattle, and colleagues present data on a subset of human memory T_H2 cells confined to atopic individuals that included all allergen-specific T_H2 cells.

The researchers found that the subset of cells was made up of terminally differentiated CD4⁺ T cells, which were characterized by coexpression of CRT_H2, CD49d, and CD161; they also exhibited functional attributes that were distinct from conventional T_H2 cells. Cells with this allergic disease-related phenotype were designated as the T_H2A cell subset. In transcriptome analysis, a distinct pathway was identified in the initiation of pathogenic responses to allergen; elimination of these cells indicated immunotherapy-induced clinical responses.

"Together, these findings identify a human T_H2 cell signature in allergic diseases that could be used for response-monitoring and designing appropriate immunomodulatory strategies," the authors write.

Two authors are listed as inventors on patents held or submitted by the Benaroya Research Institute.

More information: [Abstract/Full Text \(subscription or payment may be required\)](#)

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