

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

August 3 2017



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



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

Noting that use of atopic disease-causing T <u>cells</u> as therapeutic targets and clinically useful biomarkers is limited by lack of an accepted methodology to identify and differentiate these cells from nonpathogenic  $T_H 2$  cell types, Erik Wambre, Ph.D., from the Benaroya Research Institute in Seattle, and colleagues present data on a subset of human memory  $T_H 2$  cells confined to atopic individuals that included all allergen-specific  $T_H 2$  cells.

The researchers found that the subset of cells was made up of terminally differentiated CD4<sup>+</sup> T cells, which were characterized by coexpression of CRT<sub>H</sub>2, 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  $T_H^2$  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:** <u>Abstract/Full Text (subscription or payment may</u> <u>be required)</u>

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Citation: Signature ID'd for allergen-specific type 2 helper cells (2017, August 3) retrieved 5 May 2024 from <u>https://medicalxpress.com/news/2017-08-signature-idd-allergen-specific-helper-cells.html</u>

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