

Scientists find receptor that puts the brakes on allergic response

April 1 2016, by Ziba Kashef

Up to 40% of the world's population has allergic rhinitis, commonly known as an allergy. A Yale-led study has identified an important receptor protein that regulates the intensity of the immune response to allergens. Their finding, published in *Science*, provides a new target for treating this pervasive health problem.

Researchers have known for years that the [immune system](#) has a built-in mechanism to regulate the intensity and duration of its response to an invader, such as dust mites. But the mechanism was poorly understood. The Yale team focused its study on a family of receptor proteins in cells that can impede the immune system response. They conducted a series of experiments on mice models, exposing them to dust mites as well as parasites, which trigger a similar immune system reaction. They confirmed that one particular receptor, TYRO3, regulated the strength of the immune response.

The finding points to a new approach for treating allergies and possibly asthma. "We identified a receptor, TYRO3, that puts a brake on this response," said Dr. Carla Rothlin, senior author and associate professor of immunobiology and pharmacology. "The relevance is if you know that you have a mechanism that inhibits the response to allergens, and it's a receptor, you can take a pharmacological approach to push this brake." Drugs could be developed to limit the immune [response](#) in allergies, or enhance it to fight parasites, Rothlin explained.

The researchers also uncovered variants of the TYRO3 gene that are

associated with another common condition: asthma. "Future studies might reveal whether it's contributing to this disease," said Rothlin.

Pamela Chan, a former graduate student in Rothlin's lab, is first author.

Provided by Yale University

Citation: Scientists find receptor that puts the brakes on allergic response (2016, April 1)
retrieved 23 April 2024 from

<https://medicalxpress.com/news/2016-04-scientists-receptor-allergic-response.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.