

Can a chemokine help protect against bronchial asthma?

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Children with asthma use inhalers to relieve some of their symptoms, which include coughing, wheezing, chest tightness and shortness of breath. Credit: Tradimus / Wikimedia commons / [CC BY-SA 3.0](#)

The chemokine RANTES, a signal protein that plays a role in causing certain cells from the immune system to migrate into lung tissue, seems to have an anti-inflammatory effect on the disease bronchial asthma. This is the conclusion reached by a research group led by Prof. Dr. Dr. Susetta Finotto and doctoral candidate Nina Li from

Universitätsklinikum Erlangen.

Bronchial asthma is a chronic inflammatory condition of the airways. The inflammatory processes are triggered when cells from the immune system, known as eosinophilic granulocytes, gather in the airways. While one form of eosinophilic granulocytes, known as iEos, aggravates inflammatory processes, a second form known as rEos helps maintain the equilibrium in the [lung](#).

Nina Li and her team from the Department of Molecular Pneumology gave mice with and without asthma an artificially produced form of the [chemokine](#) RANTES. The research group observed that numbers of rEos increased while numbers of iEos decreased. At the same time, increased quantities of the substance IL-10, which tackles inflammation, were produced in the body, suggesting that RANTES may have anti-inflammatory properties.

The researchers also demonstrated that resiquimod, a drug used to treat asthma, encourages RANTES production in [children](#) with asthma, once more suggesting that the chemokine could help treat the disease.

Another interesting aspect observed by the research team was that production of RANTES fell to lower levels in blood cells of children with asthma when they had an infection with rhinoviruses that trigger common colds. Rhinovirus infections often cause asthma to get worse.

On the basis of their research findings, an evaluation of data from the U.S. asthma BRIDGE cohort, and blood tests of children with asthma, the FAU research group has raised the possibility that RANTES may be used to treat [asthma](#).

More information: Nina Li et al, Regulated on Activation, Normal T Cell Expressed and Secreted Drives the Resolution of Allergic Asthma,

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