

# Susceptibility to allergies can be reduced

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Susceptibility to allergies reduced by increased production of regulatory T cells

Susceptibility to allergies reduced by increased production of regulatory T cells. This is the main finding of a current study being conducted at the Institute of Immunology at MedUni Vienna, headed up by Winfried F. Pickl. The initial results of this study by Alina Neunkirchner, which looks at the root cause of the development of allergies, are being presented at the European Congress of Immunology, which starts in Vienna this Sunday (6 – 9 September 2015, Austria Center Vienna).

With the aid of a new type of [animal model](#), used for the first time, the researchers were able to show that susceptibility to developing allergies declines, if the activity of the regulatory T cells is increased. Double

transgenic, so-called humanized mice (T-cell-receptor and MHC, human, allergen-presenting leukocyte antigens) were produced in the laboratory and used in the study. Pickl: "For the first time, this enabled us to simulate in an animal model what happens in the human body when there is contact with a human-relevant allergen."

The increased production of regulatory T cells is brought about by using a combination of the T-cell growth factor Interleukin-2 and an anti-Interleukin-2 antibody. Pickl: "The second component increases the half-life of IL-2 and generally prolongs its effect. This dampens down any tendency to develop allergies." According to the MedUni Vienna scientists, these new findings could lead to preventive treatments being developed for high risk patients in the future. Those affected are people who have an inherited predisposition to produce insufficient regulatory T-cells in their bodies or whose T [cells](#) have been destroyed by viral diseases, for example.

A similar regulatory T-cell effect has also been found in certain autoimmune diseases such as EAE (Experimental Autoimmune Encephalomyelitis).

Provided by Medical University of Vienna

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