

'Apple allergy': Symptoms could be significantly reduced with apple-allergen treatment

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The food allergy associated with birch pollen is a condition commonly found alongside an allergy to birch pollen. Sufferers are plagued by swelling and reddening or itching in the mouth and throat area, for example when they eat certain foods, especially apples, but also nuts, peaches or kiwis. A group of researchers at the Institute of Pathophysiology and Allergy Research at the MedUni Vienna, led by Barbara Bohle, has now discovered that the "apple allergy" can be treated effectively with an apple allergen (Mal d 1) and this helps to significantly reduce the symptoms of the condition.

In the current study, which has now been published in the highly respected [Journal of Allergy and Clinical Immunology](#), the scientists administered the synthetically manufactured molecule Mal d 1 as drops under the tongue. This "imitates" the eating of an apple. As a consequence, the immune system was activated and it was possible to measure the first signs of

tolerance. This indicates that, with a longer period of treatment, sufferers respond with less sensitivity and are able to tolerate the allergen better when they bite into a fresh apple.

Says Bohle: "This means that recombinant manufactured Mal d 1 is a highly promising molecule for treating the apple allergy associated with birch pollen and for significantly improving the quality of life of sufferers in the future." This is now set to be demonstrated in a clinical study.

Stubborn cross-allergy

Around 400,000 Austrians have an allergy to birch pollen. Its symptoms can nowadays already be treated effectively with vaccines. The disadvantage is that, "They work against the birch pollen [allergen](#) itself, but rarely against the cross-allergies," says Bohle. The birch pollen allergy also only occurs on a seasonal basis. "Affected individuals suffer with the food allergy much more and for much longer, however – literally all year round." 70 per cent of all people with a birch pollen allergy also have a [food allergy](#).

More information: "Oral exposure to Mal d 1 affects the immune response in patients with birch pollen allergy." M. Geroldinger-Simic, T. Kinaciyani, B. Nagl, U. Baumgartner-Durchschlag, H. Huber, C. Ebner, J. Lidholm, D. Bartel, S. Vieths, B. Jahn-Schmid, B. Bohle. *J. Allergy Clin. Immunol.*, 2012, Aug. [doi:10.1016/j.jaci.2012.06.039](https://doi.org/10.1016/j.jaci.2012.06.039)

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