Birch pollinosis is one of the prevailing allergic diseases in regions with birch trees, such as Northern and Central Europe and Northern America, and causes clinical syndromes like hay fever and asthma. Birch trees grow in the temperate climate zone of the northern hemisphere and release large amounts of pollen during spring. This pollen is a major cause of Type I allergies.

The symptoms of this type I allergy are caused by an immune response, which is triggered when two receptor-bound immunoglobulin E (IgE) antibodies on the surface of a mast cell or basophil are cross-linked by simultaneous binding of an otherwise harmless antigen, the so-called allergen.

The main birch allergen in Northern Europe is a pathogenesis-related class 10 (PR-10) protein from the European white birch (*Betula pendula/Betula verrucosa*) termed Bet v 1.

The 17.4 kDa major birch pollen allergen Bet v 1 is responsible for IgE binding in more than 95% of birch pollen allergic patients. Furthermore, due to cross-reaction of Bet v 1 specific IgE antibodies with food allergens sharing a virtually identical tertiary structure with Bet v 1, up to 70% of birch pollinotic patients also show hypersensitivity to fresh fruit or vegetables.

In addition to this, between 5% and 20% of birch pollinotics mount IgE antibodies against the 9.4 kDa minor birch pollen allergen Bet v 4, an acidic two EF-hand Ca2þ-binding polcalcin.

Rekom Biotech, as specialised company in the design and development of recombinant biomarkers, has produced as mature proteins two allergens of *Betula verrucosa*:

ALLERGEN	CAT NUMBER	INCIDENCE
Bet v 1	RAL0011	95%
Bet v 4	RAL0009	5-20%

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability

bioallergens powered by reKom

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