

Recombinant (E. Coli) allergen 2 of birch pollen, profilin, Betula verrucosa Isoform Bet v 2.0101

Cat# BETV26-R-100

Size: 100 ug



Birch is a thinleaved deciduous hardwood tree of the genus *Betula* in the family Betulaceae, which also includes alders, hazels, and hornbeams, and is closely related to the beech/oak family, Fagaceae. The genus *Betula* contains 30 to 60 known taxa of which 11 are on the IUCN 2011 Green List of Threatened Species. They are a typically rather short-lived pioneer species widespread in the Northern Hemisphere, particularly in northern temperate and boreal climates.

The major allergen of birch tree pollen is Bet v 1. It has significant sequence homology to a group of pathogenesis-related plant proteins and has been classified as a PR-10 protein. Recombinant Bet v 1 has been shown to bind IgE in most birch-pollen allergic patients. Several cross-reactive Bet v 1-homologues are major allergens of Fagales pollen (Alder, Hazel, Hornbeam) and taxonomically related fruits, vegetables, and spices (e.g., Carrot, Celery, Apple, Apricot, Cherry, and Pear). Bet v 1 is recognised by IgE antibodies from about 95% of Birch-allergic patients Bet v 2 and Bet v 3 from 10% and Bet v 6 by approximately 32% 29. The sensitisation profiles to Bet v 1 and Bet v 2 differ among geographical areas. Bet v 2, a profilin and a minor allergen, has also been shown to be involved in cross-reactivity to certain foods.

Bet v 2, a well-described minor allergen from birch pollen, belongs to the family of profilins, a group of common actin-binding proteins. Profilins can be found as cross-reactive allergens not only in pollen from unrelated plants (trees, grasses, weeds) but also in other plant tissues (of fruits, vegetables, nuts, spices, and latex)

Bet v 1 has been proposed to be a diagnostic marker allergen for identifying patients with genuine sensitisation to birch-pollen, whereas more highly cross-reactive allergens, such as Bet v 2 and Bet v 4, may serve as marker allergens for syndromes involving cross-reactivity with unrelated plants/plant products. Accordingly, patients who exhibit positive skin tests to birch pollen extracts but have never been exposed to Birch might be considered to have IgE antibodies to cross-reactive allergens such as profilin. Therefore, the use of rBet v 1 to identify patients with genuine birch pollen sensitisation and to confirm the diagnosis of birch pollen allergy before initiating immunotherapy with birch pollen extract has been recommended.

Profilin-1

Alternative name(s):

Allergen Bet v II

Pollen allergen Bet v 2

Allergen: Bet v 2

Source & Form

Bet v 2 is a recombinant (*E. coli*) protein with IgE-binding capacity (BetV2; ~14 Kda). M65179/Swissprot: P25816. **Purity:** > 95%.

Concn: 1 mg/ml (lot sp concn specified on the vial)

Form and Storage

When stored at -20°C the quality of the material will be maintained for several years. However, for short periods (max. 3 weeks) the lyophilized product may be kept at room temperature. After reconstitution store at -20°C. Avoid repeated freezing/thawing.

Suggested Uses / Reconstitution

The material can be reconstituted with distilled water (or equivalent) or dilute buffers. The recombinant proteins can be used for ELISA or Western (users must test the optimal concentration).

Country of Origin: USA

MSDS:

This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, diagnostic, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

This product is for in vitro research use only.

References: Valenta R (1991) *Science* 253, 557-560; Jimenez-lopez JC (2013) *PLoS One* 8, E76066; Fedorov AA (1997) *Int. Arch. Allergy Immunol.* 113:109-113; Domke T (1997) *FEBS Lett.* 411, 291-295

BETV26-R-100-Birch-Pollen-Profilin-1

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