**Clinical Utility**

Pollen of Mugwort is one of the main causes of allergic reactions in Europe. Botanical relationships and cross-reactivity to other plants, such as Ragweed can lead to clinical significant reactions in other geographic areas. Art v 1 from Mugwort represents a specific marker allergen suitable for discriminating between genuine Mugwort sensitization and cross-reactivity.

**Allergen Description**

Mugwort is native to Europe, Asia and northern Africa, but is now also present in North America where it is an invasive weed.

Approximately 79-95% of Mugwort-allergic patients are sensitized to Art v 1, which is a major Mugwort allergen (1-3).

Art v 1 is a 28 kDa modular glycoprotein able to induce strong T-cell responses (4). In contrast to other common pollen allergens that contain multiple T-cell epitopes, Art v 1 contains only one immunodominant T-cell epitope (2).

**Clinical Experience**

Pollen from Mugwort often induces hayfever, asthma and conjunctivitis in sensitized individuals. Mugwort is one of the main causes of allergic reactions in the European late summer and autumn and affects about 10-14% of patients suffering from pollinosis (5).

Approximately 25% of Mugwort allergic patients have reported subsequent hypersensitivity to a variety of foods e.g. Celery (Celery-Mugwort-Spice syndrome), Honey, Sunflower seeds, Camomile and Pistachio (4, 6).

**Cross-reactivity**

An extensive cross-reactivity among the different individual species of *Artemisia* could be expected, as well as to a large degree among members of the family *Asteraceae (Compositae)* (3, 7).

Cross-reactivity between Mugwort and Ragweed pollen has been demonstrated (8). However, Amb a 1 and Art v 1, the major allergens of Ragweed and Mugwort, respectively, are unrelated proteins.

Besides Art v 1, Mugwort contains other allergens, e.g., profilin, calcium-binding proteins and lipid transfer proteins, which can lead to clinically significant allergic reactions and cross-reactivity in pollen-sensitized patients (5, 7, 9).
References


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3. Jmeno L, Dufoort O, Serrano C, Barber D, Polo F. Monoclonal antibody-based ELISA to quantify the major allergen of Artemisia vulgaris pollen, Art v 1. Allergy 2004;59(9):995-1001


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