



Purification and characterization of M-177, a 177 kDa allergen, from the house dust mite *Dermatophagoides farinae*

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A high molecular weight allergen, M-177, was recently discovered in the house dust mite, *Dermatophagoides farinae* (*D. farinae*). The aims of this study were to develop a conventional purification procedure for M-177 and then to analyze some of the immunochemical properties of M-177. Mite extracts obtained from purified mite bodies were a suitable material for preparing M-177, because the purified mite extract contained large amounts of M-177. The purification of this allergen from the extract was achieved by ethanol fractionation, anion exchange chromatography, and gel filtration chromatography. The purified antigen was immunochemically equivalent to that of a preparation obtained by a previous affinity method using an anti-Mag 3-immobilized column. The yield of this purification procedure was 36.8% of the initial amount of M-177 in the extract, 40-fold greater than that of the previous immunoaffinity method. Our purification method was useful for preparing this allergen. The purified M-177 reacted in skin tests in 11 of 16 mite-allergic patients, compared to 10 of 16 with Der f 2. The amount of M-177 in the purified mite extract determined by enzyme-linked immunosorbent assay inhibition was as much as 0.95% of the total protein, which was higher than the amounts of Der f 1 (0.52%) and Der f 2 (0.32%). The potent allergenic activity and large amount of M-177 in the mites indicate that it is an important mite allergen.

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