

NEW HORIZONS — ALLERGY —

Reference: *New Horizons* Number 1, 2008

Allergy, IgG antibodies, inflammation and immunotherapy The impact of measuring IgG and IgG4 antibodies

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Clinical background

Allergen Specific Immunotherapy (SIT) is the only curative treatment for IgE-mediated allergy. Successful SIT interacts with the immunological mechanisms and induces long term tolerance.

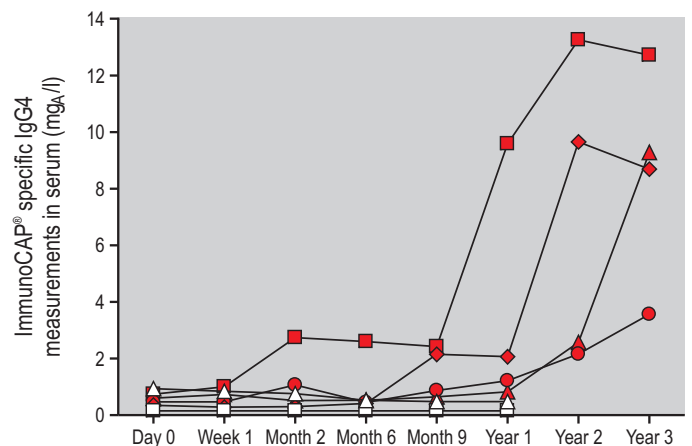
An effective SIT is accompanied by a dose-dependant increase in allergen specific IgG4/IgG antibodies as a marker of immunological response. Sustained high levels of IgG4/IgG antibodies throughout the treatment indicate tolerance development.

In the initial phase of SIT an increase in allergen-specific IgE antibodies is often seen as a sign of an early response to therapy; in successful SIT IgE antibody levels then slowly decrease.

To monitor the development of immunological response to SIT, antibody measurements should be made with shorter intervals during the up dosing phase than is needed during the maintenance treatment.

- IgG4/IgG antibodies are induced in successful SIT
- No increase in IgG/IgG4 antibodies indicates low probability of success and treatment changes should be considered

A. Specific IgG4 antibodies



B. Specific IgE antibodies

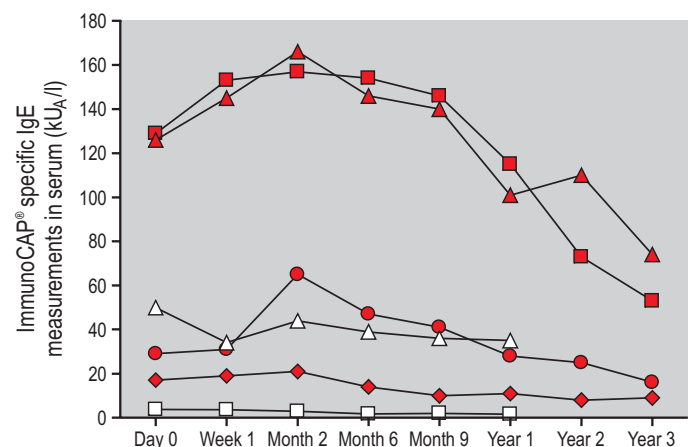


Figure A & B. Changes in birch pollen-specific IgG4 (A) and IgE (B) antibody levels in patients treated with pollen-specific rush immunotherapy (SIT) (filled symbols) or in control patients (unfilled symbols). Adapted from *Ann Allergy Asthma Immunol* 2001;86:337-42.

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