



ORAL PRESENTATION

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# Analysis of the IgE- and IgG-reactivity profiles of asthmatic and non-asthmatic HDM-allergic patients using the ISAC microarray system

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## Background

House dust mites (HDM) represent one of the most important inducers for respiratory allergies worldwide. The aim of this study was to investigate the IgE- and IgG-reactivity profiles of HDM-allergic individuals suffering only from allergic rhinitis or from allergic asthma.

## Methods

This study included sera from clinically well characterized asthmatic (n=105) and non-asthmatic (n=53) HDM-allergic patients. IgE- and IgG-reactivity to seven HDM-allergens (nDer p 1, rDer p 2, rDer p 5, rDer p 7, rDer p 10, rDer p 21 and rDer p 23) were measured using a customized allergen microarray (i.e., ISAC chip, Thermofisher, Vienna, Austria).

## Results

HDM-allergic individuals suffering from asthma showed striking differences regarding their IgE reactivity profiles compared to the non-asthmatic group. First, the frequency of IgE reactivity to the tested HDM allergens was up to 3-fold higher in the asthmatic than in the non-asthmatic group. Seventy percent of the asthmatics reacted with 3 to 6 of the tested allergens compared to only 45% in the non-asthmatic group. Furthermore, IgE-levels to nDer p 1, rDer p 2, rDer p 5 and rDer p 23 were significantly higher in the asthmatic group. In contrast, HDM-allergic asthma patients showed a lower IgG-binding frequency to the seven HDM allergens than HDM-allergic patients without asthma.

## Conclusion

The IgE and IgG reactivity profiles to HDM allergens differ considerably in patients with mild (i.e., rhinitis) and severe (i.e., asthma) respiratory symptoms due to HDM allergy.

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