The relevance of storage mites (SM) in the pathogenesis of respiratory allergy remains uncertain. We sought to investigate the serological molecular profile of a selected asthma population with a high environmental exposure focusing on storage mite sensitization.

We selected non-consecutive patients sensitized to SM (i.e., *Blomia tropicalis*, *Lepidoglyphus destructor*, *Glycyphagus domesticus*, and *Tyrophagus putrescentiae*) with moderate-severe persistent asthma according to the GINA Guidelines. Skin prick test (SPT) with standardized allergenic extracts (DIATER) to SM and serum samples were obtained from all subjects. Total IgE and sIgE (MADx) including a comprehensive panel of 6 allergens (Bio t 5, Bio t 10, Bio t 21, Lep d 2, Gly d 2 and Tyr p 2) were quantified.

Forty-five asthmatic subjects showed at least a positive SPT to any of the above-mentioned SM with different molecular sensitization patterns. Median serum total IgE was 898 UI/mL. Regarding major allergens, median titers of group 2 allergens sIgE Lep d 2 (11.74 kUA/L), Gly d 2 (9.67 kUA/L) were higher than Bio t 5 (6.95 kUA/L) and Bio t 21 (7.95 kUA/L). Lep d 2, Gly d 2, Tyr p 2 and Bio t 15 were serodominant throughout all samples.

**Results**

**Blomia tropicalis**

<table>
<thead>
<tr>
<th>Asthma (GINA)</th>
<th>Skin Prick Test</th>
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<tr>
<td>Persistent &amp; Moderate/severe</td>
<td>Positive</td>
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**SDS PAGE and Western blot in reduced conditions incubated with serum from SM allergic patients**

**Conclusions**

Group 2 along with Bio t 5 and Bio t 21 allergens from *Lepidoglyphus destructor*, *Glycyphagus domesticus*, *Tyrophagus putrescentiae* and *Blomia tropicalis*, showed serodominance in the selected asthma population. Clinical and molecular cross-reactivity among mite species needs to be considered in terms of a genuine diagnosis and a customized therapy.