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Rationale

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.

Material and methods

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.

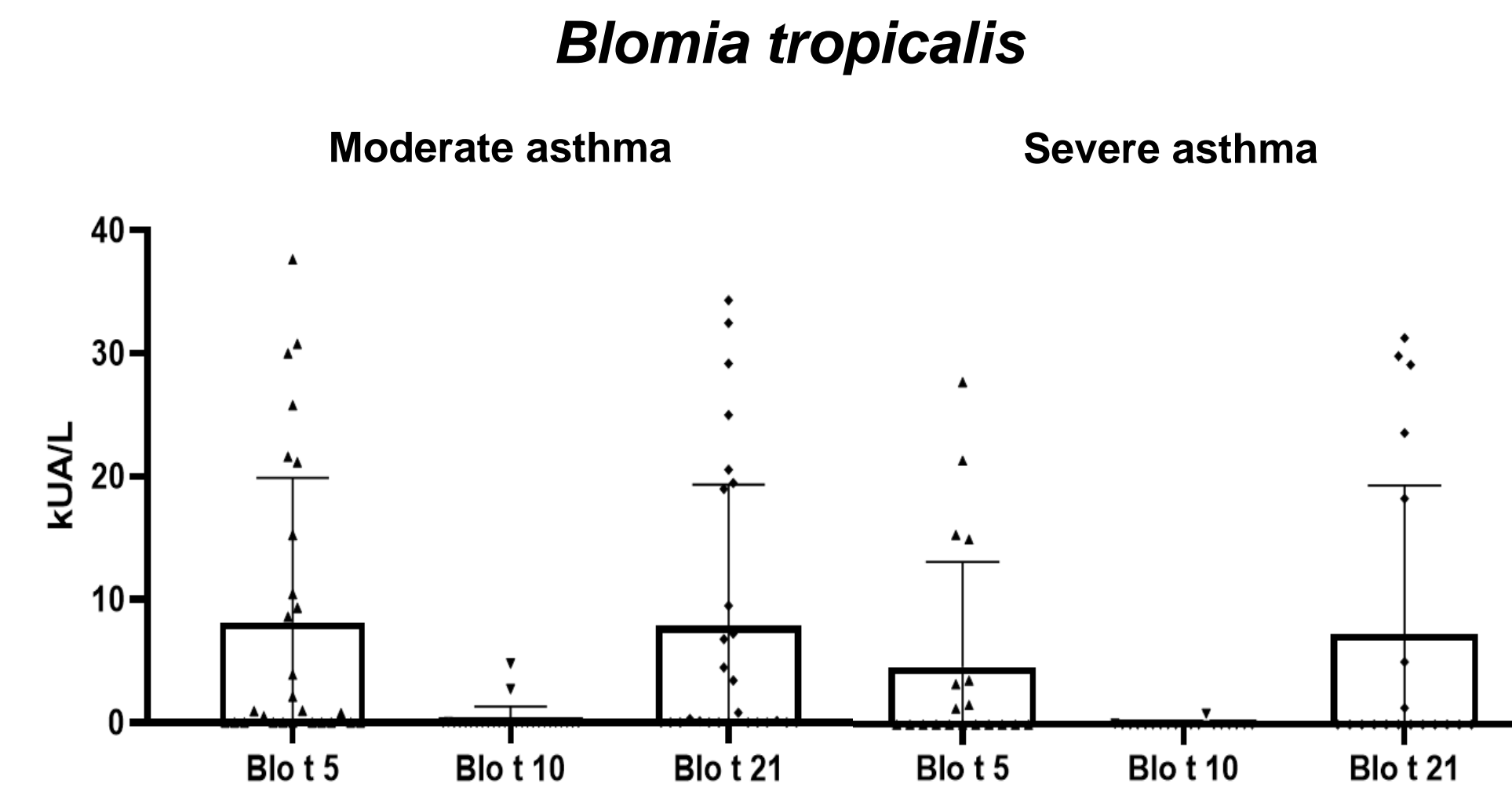
Skin prick test (SPT) with standardized allergenic extracts (DIATER) to SM and serum samples were obtained from all subjects.

Total IgE and sIgE (MADx) including a comprehensive panel of 6 allergens (Blo t 5, Blo t 10, Blo t 21, Lep d 2, Gly d 2 and Tyr p 2) were quantified.

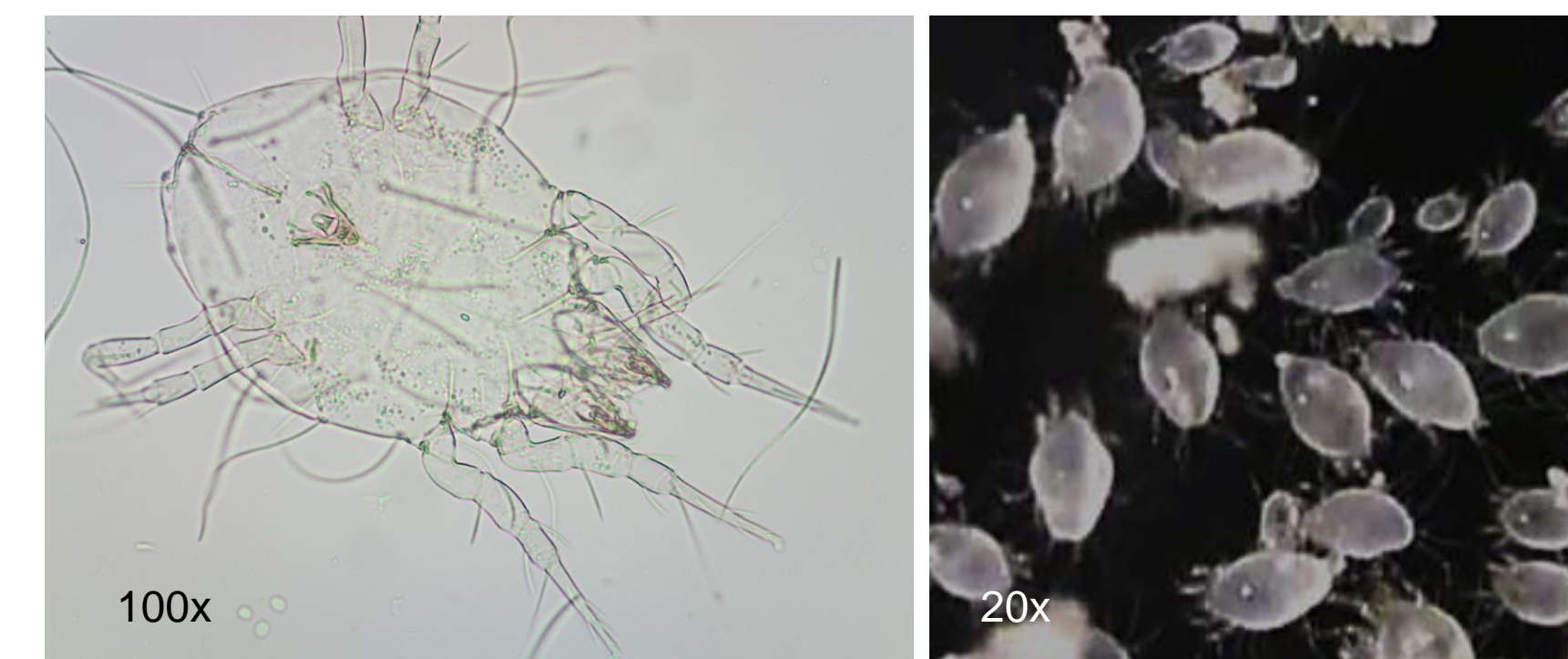
Results

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 Blo t 5 (6.96 kUA/L) and Blo t 21 (7.95 kUA/L). Lep d 2, Gly d 2, Tyr p 2 and Blo t 5 were serodominant throughout all samples.

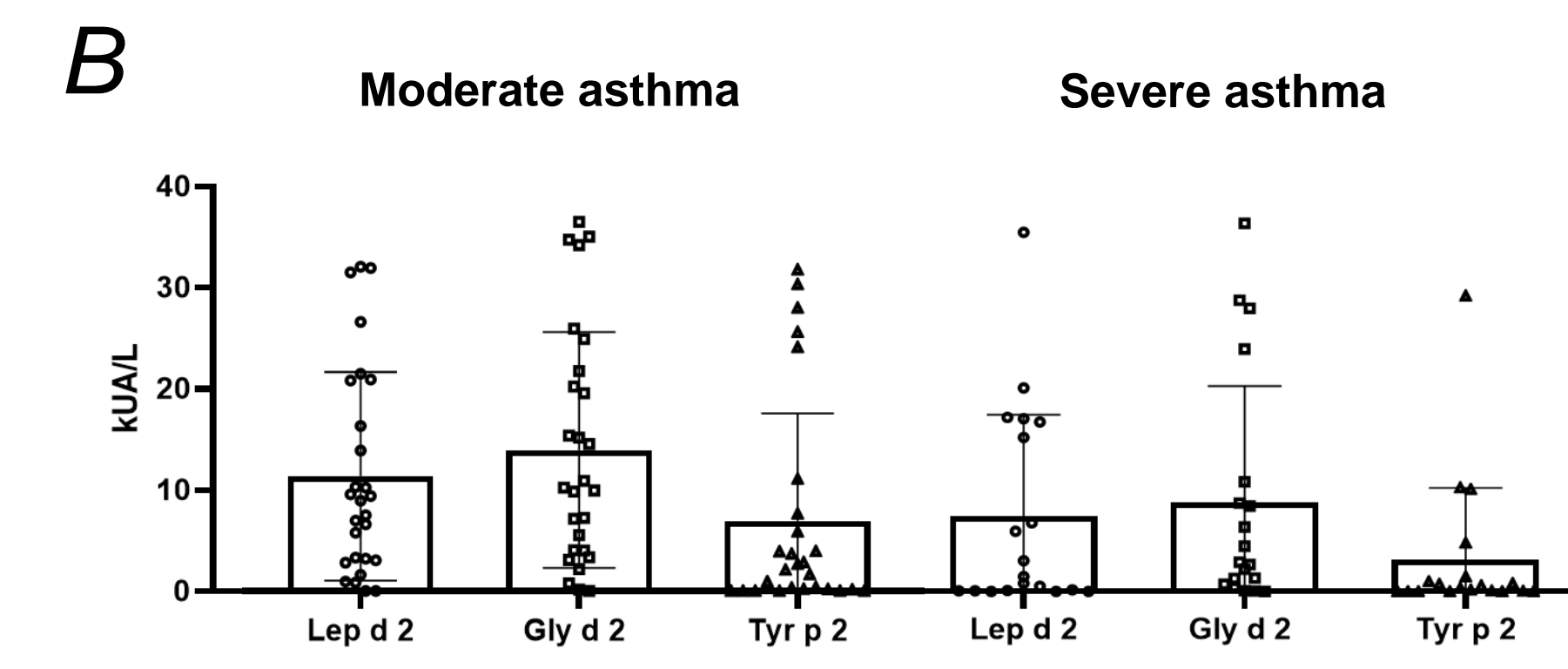
Results



Asthma (GINA)	Skin Prick Test
Persistent & Moderate/severe	Positive

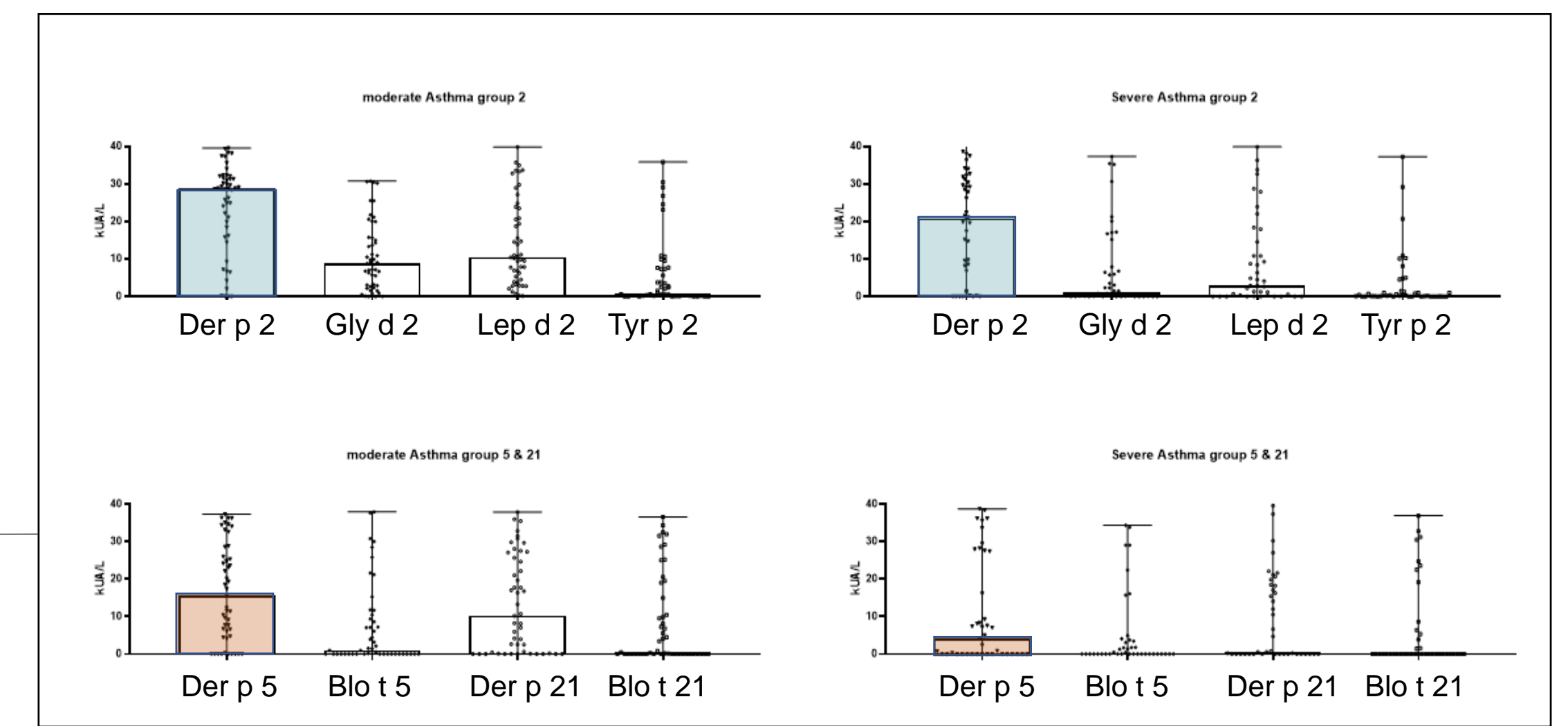


Cultures of *Blomia tropicalis*

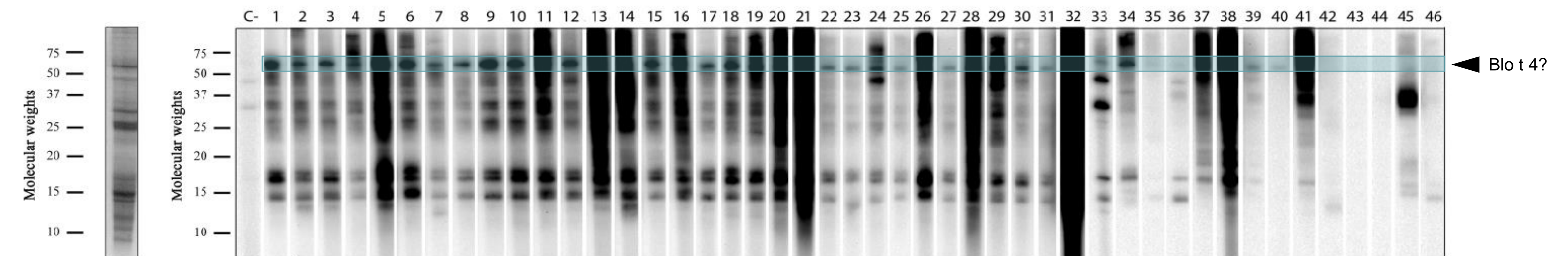


Specific IgE of CRDs storage mites allergens (means and SD). A. *Blomia tropicalis* panel (Blo t 5, Blo t 10, Blo t 21) and B. *Lepidoglyphus destructor*, *Glycyphagus domesticus* and *Tyrophagus putrescentiae* panel (Lep d 2, Gly d 2 and Tyr p 2)

Detail groups 2, 5 and 21. Comparative house dust and storage mites



Specific IgE of CRDs group 2 and 5/21 (*Dermatophagoides pteronyssinus* and *Blomia tropicalis*).



SDS PAGE and Western blot in reduced conditions incubated with serum from SM allergic patients

Conclusions

Group 2 along with Blo t 5 and Blo 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.