exchange and gel permeation chromatography. The ELISAs were based in specific monoclonal antibodies, 5A3 mAb to quantify Ole e 1, two mAbs 5F2 and 3H8 with different epitope specificities to measure Ole e 2, and the 8D5 mAb for Ole e 9. These antibodies were immobilized on ELISA plates and incubated with samples containing the respective allergens. Bound proteins were detected by a combination of biotinylated specific polyclonal antibodies and peroxidase–streptavidin conjugate. The IgE-binding activity of the pollen extracts was measured by EAST-inhibition.

Results: The Ole e 1 content in 16 different batches of *O. europaea* pollen extracts ranged from 20% to 66% with a median value of 46%. The Ole e 2 concentration in the same extracts varied widely from 0.015% to 3.71%. The amount of Ole e 9 ranged from 0.43% to 3.73% with a median value of 1.4%. The Ole e 1 median content was 32-times the Ole e 9 value and 450-times the Ole e 2 value. A correlation (*r* = 0.816, *P* < 0.001) was obtained between Ole e 1 content in extracts and their IgE binding activity.

Conclusion: Sensitive ELISAs for the quantification of relevant olive pollen allergens are described which could be important tools for quality control of *O. europaea* allergenic extracts intended for clinical use.

### 684 Comparison between skin prick tests and ImmunoCAP ISAC<sup>®</sup> in the determination of sensitisation to aeroallergens

**Sousa, N<sup>1</sup>; Almeida, E<sup>1</sup>; Machado, D<sup>2</sup>; Rodrigues, F<sup>2</sup>; Carrapatoso, I<sup>1</sup>; Faria, E<sup>1</sup>; Ribeiro, H<sup>2</sup>; Chieira, C<sup>1</sup>**

*1* Medical University of Vienna Hospitals, Immunology Laboratory, Department, Coimbra, Portugal; *2* Coimbra University Hospitals, Immunology Laboratory, Coimbra, Portugal

**Background:** The sequencing of allergenic components has led to the development of new diagnostic methods. ImmunoCAP ISAC<sup>®</sup> allows the quantitative determination of specific IgE to multiple allergens from a very small quantity of serum. However, the sensitivity and specificity of this new method has yet to be determined in Portuguese patients.

**Objective:** To determine the sensitivity and specificity of ImmunoCAP ISAC<sup>®</sup> to common aeroallergens.

**Patients and methods:** We reviewed the clinical files of 30 patients with allergic rhinitis and/or asthma sensitized to common aeroallergens. Twelve patients were monosensitized (four to house dust mites, six to grass pollen and two to parietaria) and 18 polysensitized. Sensitization was determined using skin prick tests (SPT). Two different levels of sensitization were considered: allergen wheal/histamine wheal (A/H ratio > 0.5 < 1 and A/H ratio > 1. Specific IgE determinations to a panel of 91 natural purified or recombinant allergens were performed using ImmunoCAP ISAC<sup>®</sup> (positive > 0.1 kUA/l). The results of skin prick tests were compared to Specific IgE ImmunoCAP ISAC<sup>®</sup> regarding the following common aeroallergens: *D. pteronyssinus*, *D. farinae*, *Lolium perenne*, *Phleum pratense*, *Olea europea*, *Parietaria judaica*, *Betula verrucosa*, *Felix doméstica* and *Canis familiaris*.

**Results:** Thirty patients (17 F/13 M) were evaluated, mean age 30 ± 12 years. All had a history of allergic rhinitis, 50% asthma, 23% atopic eczema and 67% food allergy. The sensitivity and specificity of ImmunoCAP ISAC<sup>®</sup> compared to SPT to the selected aeroallergens is summarized in the following Table 1.

**Discussion and conclusions:** ImmunoCAP ISAC<sup>®</sup> presented lower sensitivity than SPT, specially in patients with lower sensitization (A/H ratio > 0.5 < 1). Overall specificity was very high. Sensitivity of ImmunoCAP ISAC<sup>®</sup> to *D. pteronyssinus*, *D. farinae*, *Olea europea* and *Parietaria judaica* was lower than to *Lolium perenne* and *Phleum pratense*. The small number of patients sensitized to *Betula verrucosa*, *Canis familiaris* and *Felix doméstica* biases the results and makes analysis very difficult in these cases.

### 685 Monoclonal antibody-based assay for Sal k 1, a major allergen of *Salsola kali* (Russian thistle)

**Arilla, M; Ibarrola, I; Martínez, A; Asturias, J**

*Bioar idee Research & Development Department, Bilbao, Spain*

**Background:** Pollen from Amaranthaceae family has been reported as an important source of pollinosis. The most representative members of this family are *Chenopodi um album* and *Salsola kali*. In Europe, Russian thistle (*S. kali*) is very common in coastal areas from the Baltic Sea to the Mediterranean coast where rainfall is not