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 peroxidise–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 3.37% with a median value of 1.4%. The Ole e 1 median content was 32-times the Ole e 9 value and 450-times Ole e 2. 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.

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Skin prick test extracts for dog allergy diagnosis show considerable variations regarding the content of major and minor dog allergens

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Background: Commercial Skin prick test (SPT) extracts used for the diagnosis of dog allergy are prepared by extracting allergens from natural sources e.g. dog hair and dander. Due to different starting material and extraction methods of different manufacturers it is likely that extracts differ regarding their allergen contents.

Methods: The total protein content and composition of dog SPT extracts from five European manufacturers was compared by silver-stained SDS-PAGE. Specific antibodies were used to detect major and minor allergens in each extract by immunoblotting. Additionally, sera of patients suffering from dog allergy were used to detect dog allergens in SPT extracts.

Results: SPT extracts showed approximately 20-fold variation regarding the total protein content. Signal intensities of major dog allergens Can f 1 and Can f 2 varied approximately 15-fold between the extracts. Moreover, in one of the extracts major allergens Can f 1 and Can f 2 could not be detected at all by immunoblotting. Can f 3, i.e. dog albumin contents also showed great variability. In one of the dog SPT extracts the presence of human serum albumin was detected with HSA-specific antibodies.

Conclusion: The observed variability of commercial dog SPT extracts regarding allergen contents will likely have negative influence on the accuracy of diagnosis of dog allergy.

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Comparison between skin prick tests and ImmunoCAP ISAC^R in the determination of sensitisation to aeroallergens

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Background: The sequencing of allergenic components has led to the development of new diagnostic methods. ImmunoCAP ISAC^R allows the semiquantitave 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^R 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 polissensitized. 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^R (positive >0.1 kUA/l). The results of skin prick tests were compared to Specific IgE ImmunoCAP ISAC^R regarding the following common aeroallergens:*D. pteronyssinus, D. farinae, Lolium perenne, Phleum pretense, Olea europaea, Parietaria judaica, Betula verrucosa, Felis domestica* 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^R compared to SPT to the selected aeroallergens is summarized in the following Table 1.

Discussion and conclusions: ImmunoCAP ISAC^R 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^R to *D. pteronyssinus*, *D. farinae*, *Olea europeae* and *Parietaria judaica* was lower than to *Lolium perenne* and *Phleum pratense*. The small number of patients sensitized to *Betula verrucosa*, *Canis familiaris* and *Felis domesticus* biases the results and makes analysis very difficult in these cases.

Table 1. For abstract 684.

SPT	Positive (*n*)	A/H ratio $>0.5 < 1$	A/H ratio >1
D. pteronyssinus	18	Sens. = 68.8%; Spec. = 95.2%	Sens. = 91.7%; Spec. = 96%
D. farinae	14	Sens. = 78.6%; Spec. = 95.7%	Sens. = 100%; Spec. = 100%
Lolium perenne	18	Sens. = 90.5%; Spec. = 87.5%	Sens. = 95%; Spec. = 93.8%
Phleum pratense	18	Sens. = 90%; Spec. = 88.2%	Sens. = 100%; Spec. = 100%
Olea europae	12	Sens. = 72.72%; Spec. = 100%	Sens. = 100%; Spec. = 100%
Parietaria judaica	9	Sens. = 66.7%; Spec. = 95.4%	Sens. = 85.7%; Spec. = 96.7%
Betula verrucosa	4	Sens. = 100%; Spec. = 87.9%	Sens. = 100%; Spec. = 100%
Canis familiaris	5	Sens. = 20%; Spec. = 96.9%	Sens. = 100%; Spec. = 100%
Felis domesticus	7	Sens. = 57.14%; Spec. = 96.7%	Sens. = 100%; Spec. = 100%

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

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Background: Pollen from Amaranthaceae family has been reported as an important source of pollinosis. The most representative members of this family are *Chenopodium 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

