Comparison of two multiplex arrays in the diagnosis of patients with allergy

Sirmarova J., Vlas T., Panzner P.
Department of Immunology and Allergology, Faculty of Medicine and University Hospital in Plzen, Charles University in Prague, Czech Republic
University hospital Pilsen, Czech Republic

In relation to the this presentation, I declare that there are no conflicts of interest.

INTRODUCTION

Diagnosis of type I allergy is based on the medical history, provocation testing and in vitro diagnostic tests. Currently, molecular allergy diagnostics are using in clinical routine, and many allergenic molecules are available for in-vitro specific IgE testing which can be performed on singleplex or multiplex measurement platforms. Multiplex array-based testing performed with a small amount of serum sample enables to determine specific-IgE (sIgE) antibodies against multiple recombinants or purified natural allergen components [1,2].

MATERIALS AND METHODS

We compared two multiplex paltforms: ImmunoCAP ISAC (Thermo Fisher Scientific, Sweden) and ALEX Allergy Explorer (Macro Array Diagnostics , Austria) (Fig. 1). The results were divided into class 0, 1, 2 and 3. (Tab. 1)

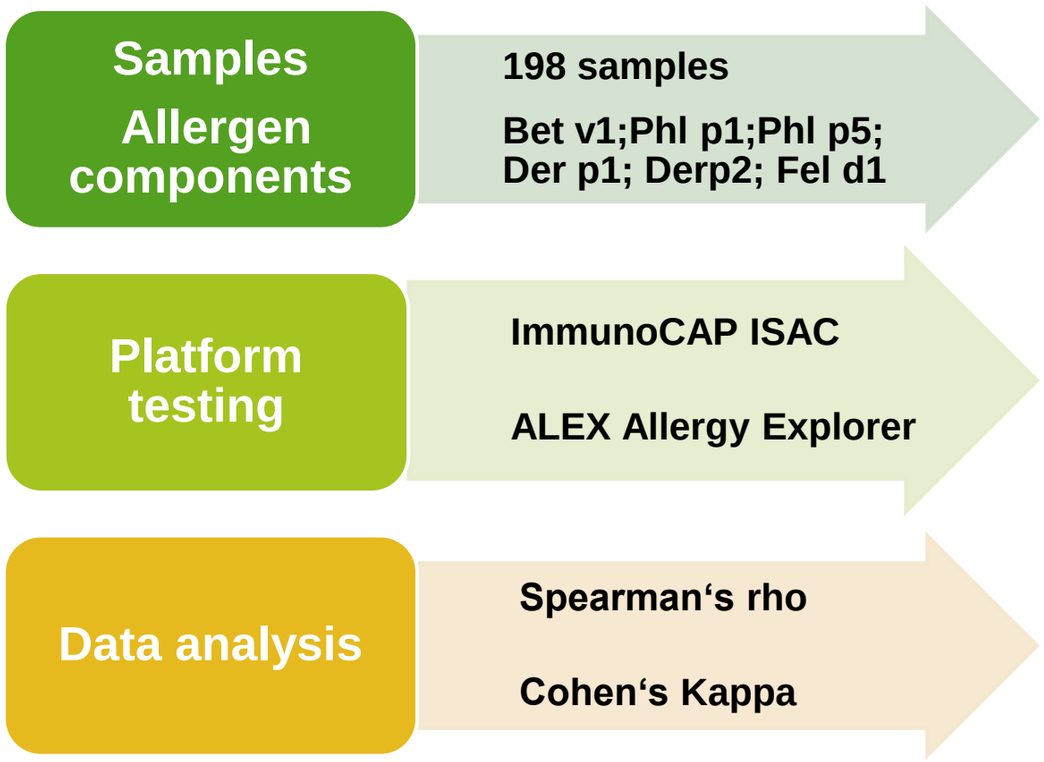


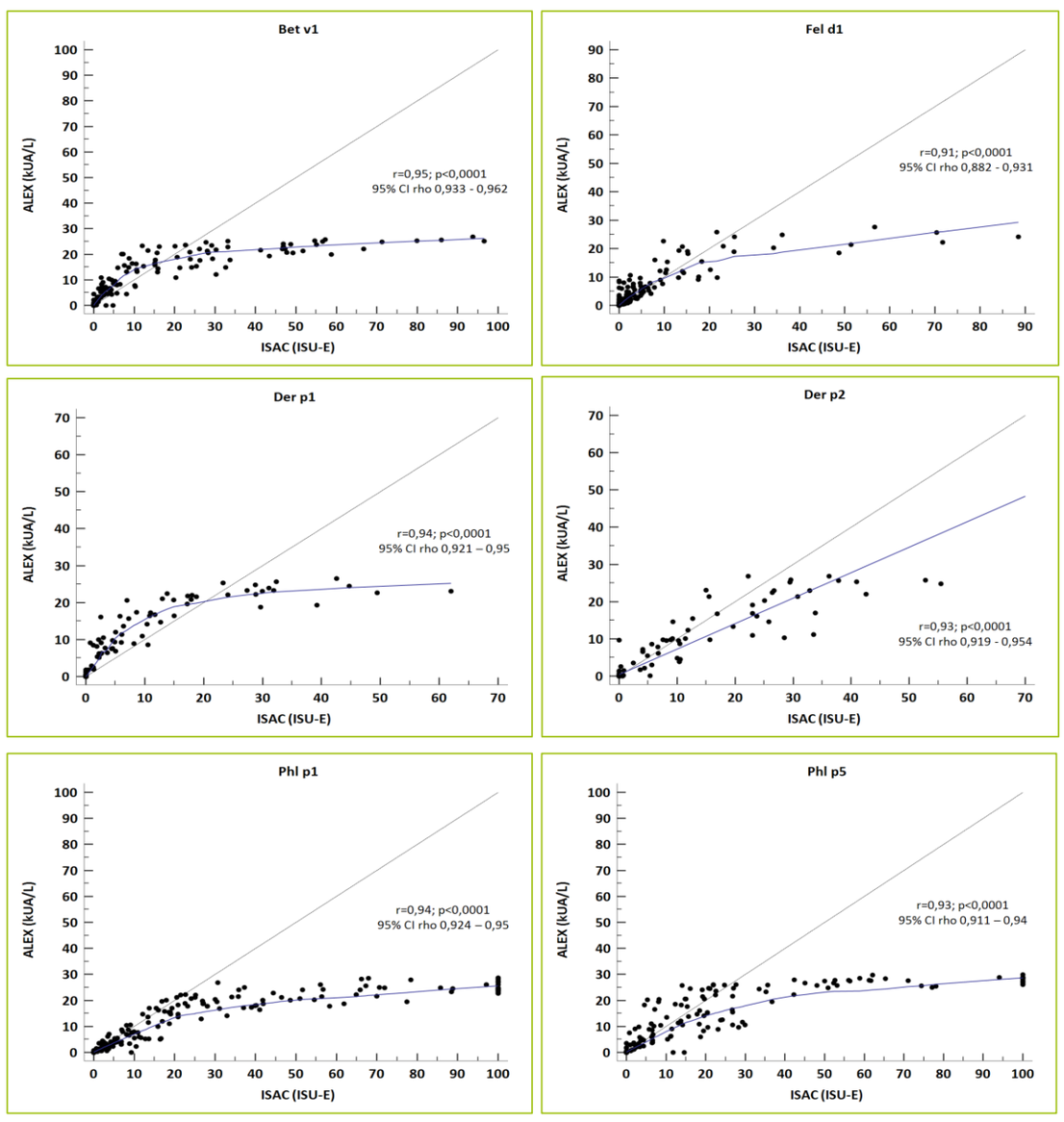
Fig. 1: Diagram of experiment

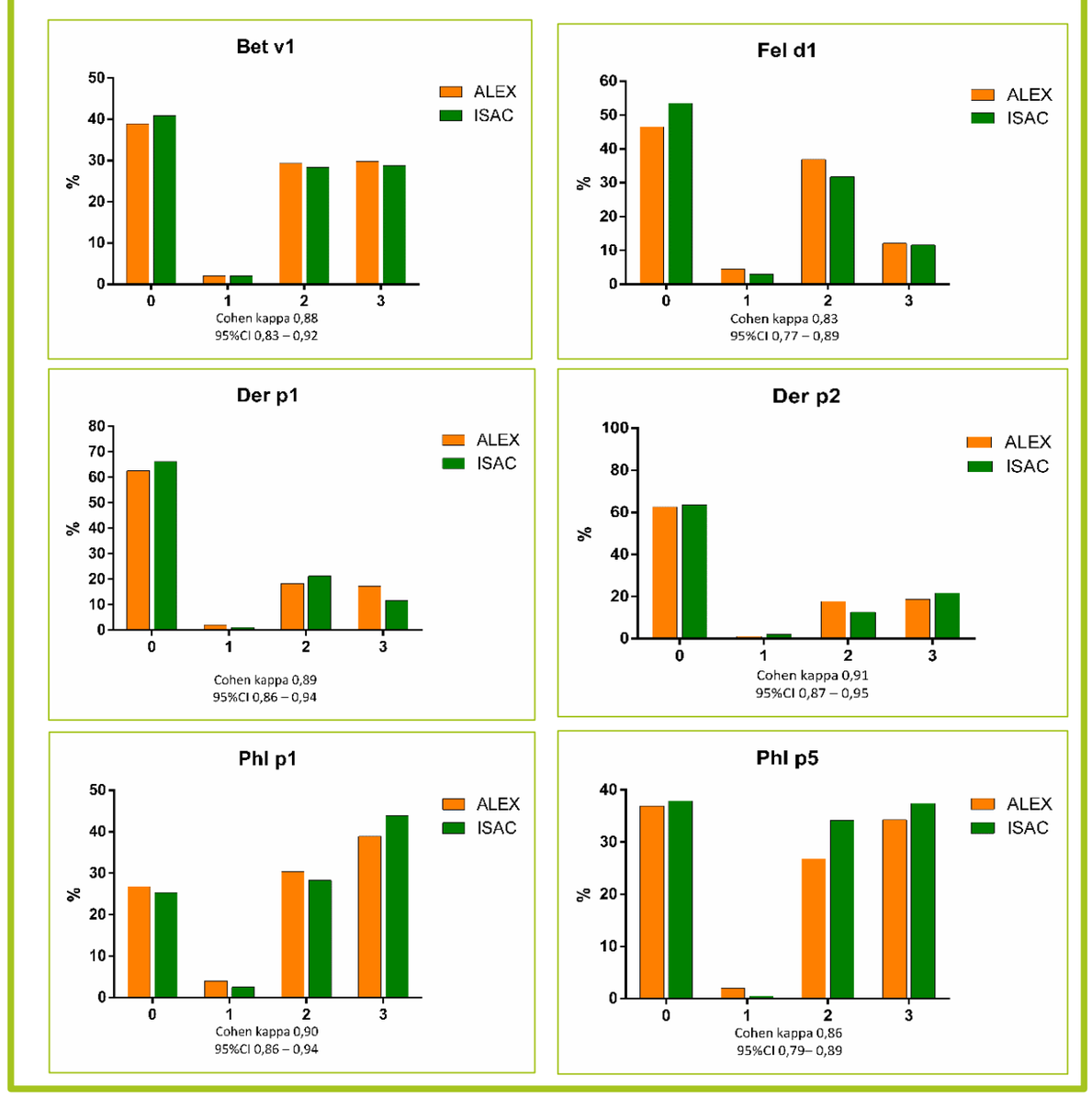
		ISAC	ALEX
Class	Interval	Interval	
0	<0,3	<0,3	<0,3
1	≥0,3 –1	0,3–0,9	0,3–1
2	1,1 – 14,9	1–14,9	1,1-5; 5–14,9
3	≥15	≥15	≥15

Interpretation Cohen kappa (K) (Altman, 1991)				
< 0,20 Poor	0,21 – 0,40 Fair	0,61 – 0,80 Good	0,41 – 0,60 Moderate	0,81 – 1,00 Very good

Tab. 1: Separation to classes

RESULTS





CONCLUSION

The new multiplex system ALEX Allergy Explorer (Macro Array Diagnostics , Austria) is capable of diagnostic accuracy of specific IgE to allergen components and provide a very good agreement with the commercially available allergy diagnostic .

References:
1. Canonica et al. World Allergy Organization Journal, 2013; 2. Sastre J.: Molecular diagnosis in allergy, Clinical et Experimental Allergy, 2010.