

## **Diagnostic approaches for differentiating between true fruit allergy and oral allergy syndrome**

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### **ABSTRACT**

*The purpose of the present study was to identify diagnostic markers that would allow distinguishing true food allergy to fruits from oral allergy syndrome, as well as to evaluate the efficacy of various diagnostic approaches. The study included 182 adult patients from Poland with immediate allergic reactions after consuming fresh fruits. Diagnosis was conducted in stages and included the collection of clinical data, allergy testing with fruit and pollen allergens, laboratory determination of total and specific immunoglobulin E (IgE), molecular methods of sensitisation identification, and assessment of cell activation. A comparative analysis of skin tests and specific immunoglobulin E determination revealed a 69.2% overall concordance, but diagnostic discrepancies were noted in more than 20% of cases, highlighting the need for a comprehensive approach. The use of component-resolved diagnostics helped to identify sensitisation to individual stable protein structures that are not accessible with standard testing and to clarify the form of allergy – true or cross-reactive. The data obtained demonstrated the need to integrate molecular diagnostics and functional methods into clinical practice to improve the accuracy of the differential diagnostics of fruit allergy.*

**Keywords:** Cellular reactivity, cross-sensitisation, molecular diagnostics, thermolabile proteins.