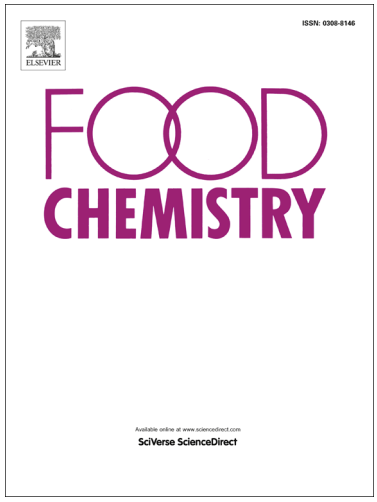

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Novel low-abundance allergens from mango via combinatorial peptide libraries treatment: a proteomics study

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Abstract

Mango allergy is a rare condition, which may cause severe hypersensitivity reactions, such as anaphylaxis, angioedema, asthma and contact dermatitis. By exploiting the combinatorial peptide ligand library (CPLL) technology, mango proteomes have been extracted and the presence of traces of allergens assessed via Western blot analysis two-dimensional maps. Upon reactive spot elution and mass spectrometry analyses, four major mango allergens could be identified for the first time and shown to be in common with three of the five known banana species. These are: Mus a 1, Mus a 2 and Mus a 5. Additional mango allergens detected do not seem to be in common with the banana species. In particular, a pectinesterase and a superoxide dismutase, both widely described as allergens, could be identified in mango extracts. Conversely, plain mango extracts not treated with CPLLs did not exhibit any reactive spots in Western blot analysis.