Ani s 10, a new Anisakis simplex allergen: Cloning and heterologous expression.

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Anisakiasis is a human disease caused by accidental ingestion of larval nematodes belonging to the Anisakidae family. Anisakiasis is often associated with a strong allergic response.

Diagnosis of A. simplex allergy is currently carried out by test based on the IgE reactivity to a complete extract of L3 Anisakis larvae although the specificity of these diagnostic tests is poor. Improving the specificity of the diagnostic test is possible using purified recombinant allergens.

A new Anisakis allergen, named Ani s 10, was detected by immunoscreening an expression cDNA library constructed from L3 Anisakis simplex larvae. The new allergen was overproduced in Escherichia coli; it is a protein of 212 amino acids and it was localized as a 22kDa protein band in an ethanol fractionated extract from the parasite. Ani s 10 has no homology with any other described protein, and its sequence is composed by seven almost identical repetitions of 29 amino acids each. A total of 30 of 77 Anisakis allergic patients (39%) were positive both to rAni s 10 and natural Ani s 10 by immunoblotting. The new allergen could be useful in a component-resolved diagnosis system for Anisakis allergy.

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