

CLINICAL SPECIFICATIONS

SHRIMP TROPOMYOSIN

Antigen Made From:

Shrimp Tropomyosin purchased from an antigen supplier

Associated With:

Tropomyosin immune reactivity
Shellfish immune reactivity
Seafood immune reactivity

Known Cross-Reactions: Tilapia, tuna, salmon, lobster, crab, prawn, shrimp¹⁻³

Clinical Significance:

Tropomyosin (TM) is a cytoskeletal microfilamental protein that regulates actin mechanics. Tropomyosin is a common antigen found in shellfish and tilapia, tuna, and salmon.⁴ There is significant antigenic similarity between shellfish TM, tilapia, tuna and salmon and human TM.⁵ Autoantibodies against human TM have been implicated as a causative agent in inflammatory bowel disorders.^{6,7} Studies on food immune reactivities predominantly use raw food antigens. However, some researchers have noted that heating, or combining, food proteins can change their antigenicity.⁸⁻¹⁰

This array tests for IgG and IgA food immune reactivity.^{11,12} Equivocal or out-of-range results indicate antibody reactivity to the tested food antigen. We tested 288 blood donor sera against tropomyosin antigens at optimal dilution, 8.3% of these donors were IgG and IgA reactive.

Due to cross-reactivity, possible connections between food antigens and human autoimmunity has been previously suggested because proteins in nature can have a similarity in sequence and structure to certain human tissues.¹³⁻¹⁶

Data suggests that eliminating foods identified using IgG antibody food testing can play a role in improvement of symptoms.¹⁷ Because certain food components can lead to gut flora changes and gut permeability, eliminating specified food antigens should result in the reduction of antigenic stimuli and the improvement of symptoms.^{17,18}

The results of this food array may be used to develop and implement an immune targeted dietary plan, which includes the avoidance of triggering and known cross-reactive foods. Furthermore, when followed over time, avoidance/prevention treatment plans tailored and supervised by the ordering healthcare professional, may help: (a) repair the gut barrier; and (b) re-establish oral tolerance to the offending food.^{17,18}

References:

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