

CLINICAL SPECIFICATIONS

SCALLOPS, COOKED

Antigen Made From:

Frozen scallops thawed and cooked in a pan with no added ingredients

Associated With:

Scallop immune reactivity

Known Cross-Reactions: Anti-B. burgdorferi antibodies, anti-EBV early antigen IgG;¹ Triiodothyronine (T3), Thyroxine (T4);² Tropomyosin of Shrimp,³ Crab⁴

Clinical Significance:

One hundred grams of cooked scallops contain 20.54% protein.⁵ 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.⁶⁻⁸

This array tests for IgG and IgA food immune reactivity. 9.10 Equivocal or out-of-range results indicate antibody reactivity to the tested food antigen. We tested 288 blood donor sera against cooked scallop antigens at optimal dilution, 12.5% 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. 11-14

Data suggests that eliminating foods identified using IgG antibody food testing can play a role in improvement of symptoms. ¹⁵ 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. ^{15,16}

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. 15,16

References:

- 1. Vojdani. Reaction of monoclonal and polyclonal antibodies made against infectious agents with various food antigens. J Clin Cell Immunol, 2015; 6:359.
- 2. Kharrazian, et al. Immunological reactivity using monoclonal and polyclonal antibodies of autoimmune thyroid target sites with dietary proteins. J Thyroid Res, 2017; 2017:4354723.
- 3. Goetz and Whisman. Occupational asthma in a seafood restaurant worker: cross-reactivity of shrimp and scallops. Ann Allergy Asthma Immunol, 2000; 85:461-466.
- 4. Zhang, et al. Cross-reactivity among shrimp, crab and scallops in a patient with a seafood allergy. J Dermatol, 2006; 33(3):174-177.
- 5. U.S. Department of Agriculture: http://ndb.nal.usda.gov/ndb/foods
- 6. Sanchez and Fremont. Consequences of heat treatment and processing of food on the structure and allergenicity of component proteins. Rev Fr Allergol Immunol Clin, 2003; 43:13-20.
- 7. Sathe et al. Effects of food processing on the stability of food allergens. Biotechnol Adv, 2005; 23:423-429.
- 8. Vojdani. Detection of IgE, IgG, IgA and IgM antibodies against raw and processed food antigens. Nutr Metab (Lond), 2009; 6: 22. DOI: 10.1186/1743-7075-6-22.
- 9. Barnes. IgG and IgA antibodies to dietary antigens in food allergy and intolerance. Clin Exp Allergy, 1995; 25(Suppl 1):7-9.
- 10. Mullin et al. Testing for food reactions: the good, the bad, and the ugly. Nutr Clin Pract, 2010; 25(2):192-198.
- 11. Vaishnav et al. Aquaporin 4 molecular mimicry and implications for neuromyelitis optica. J Neuroimmunol, 2013; 260: 92-98.
- 12. Agris et al. Plant DNA topoisomerase 1 is recognized and inhibited by human SCI-70 sera autoantibodies. Exp Cell Res, 1990;189:276-279.
- 13. Lunardi et al. Glycine-rich cell wall proteins act as specific antigen targets in autoimmune and food allergic disorders. Int Immunol, 2000; 12(5):647-657.
- 14. Bullard-Dillard et al. Anti-Sm autoantibodies of systemic lupus erythematosus cross react with dietary plant proteins. Immunol Invest, 1992; 21(3):193-202.
- 15. Cordain et al. Modulation of immune function by dietary lectins in rheumatoid arthritis. Br J Nutr, 2000; 83:207-217.
- 16. Atkinson et al. Food elimination based on IgG antibodies in irritable bowel syndrome: a randomised controlled trial. Gut, 2004; 53(10):1459-1464.