

CLINICAL SPECIFICATIONS

MACADAMIA NUT, RAW + ROASTED

Antigen Made From:

Raw Macadamia Nuts, one half were dry roasted in the oven for 10 minutes. Raw and roasted were mixed together

Associated With:

Macadamia Nut immune reactivity

Known Cross-Reactions: Triiodothyronine (T3), Thyroxine (T4);¹ Hazelnut²

Clinical Significance:

One hundred grams of raw and roasted macadamia nuts contain 7.91% protein.³ 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.⁴⁻⁶

This array tests for IgG and IgA food immune reactivity.^{7,8} Equivocal or out-of-range results indicate antibody reactivity to the tested food antigen. We tested 288 blood donor sera against macadamia nut 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.⁹⁻¹²

Data suggests that eliminating foods identified using IgG antibody food testing can play a role in improvement of symptoms.¹³ 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.^{13,14}

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.^{13,14}

References:

1. Kharrazian, et al. Immunological reactivity using monoclonal and polyclonal antibodies of autoimmune thyroid target sites with dietary proteins. J Thyroid Res, 2017; 2017:4354723.
2. Sutherland et al. Macadamia nut anaphylaxis: demonstration of specific IgE reactivity and partial cross-reactivity with hazelnut. J Allergy Clin Immunol, 1999; 104:889-890.
3. U.S. Department of Agriculture. <http://ndb.nal.usda.gov/ndb/foods>
4. 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.
5. Sathe et al. Effects of food processing on the stability of food allergens. Biotechnol Adv, 2005; 23:423-429.
6. 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.
7. Barnes. IgG and IgA antibodies to dietary antigens in food allergy and intolerance. Clin Exp Allergy, 1995; 25(Suppl 1):7-9.
8. Mullin et al. Testing for food reactions: the good, the bad, and the ugly. Nutr Clin Pract, 2010; 25(2):192-198.
9. Vaishnav et al. Aquaporin 4 molecular mimicry and implications for neuromyelitis optica. J Neuroimmunol, 2013; 260: 92-98.
10. Agris et al. Plant DNA topoisomerase 1 is recognized and inhibited by human SCI-70 sera autoantibodies. Exp Cell Res, 1990;189:276-279.
11. 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.
12. Bullard-Dillard et al. Anti-Sm autoantibodies of systemic lupus erythematosus cross react with dietary plant proteins. Immunol Invest, 1992; 21(3):193-202.
13. Cordain et al. Modulation of immune function by dietary lectins in rheumatoid arthritis. Br J Nutr, 2000; 83:207-217.
14. Atkinson et al. Food elimination based on IgG antibodies in irritable bowel syndrome: a randomised controlled trial. Gut, 2004; 53(10):1459-1464.