CYREX Laboratories

CLINICAL SPECIFICATIONS

ORANGE

Antigen Made From:
Navel Oranges, no rind with some white pericarp

Associated With:
Orange immune reactivity

Known Cross-Reactions: Anti-EBV VCA IgG;[1] Peach, Birch pollen[2]

Clinical Significance:

One hundred grams of oranges contain 0.91% 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 orange antigens at optimal dilution, 16.6% 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. Vojdani. Reaction of monoclonal and polyclonal antibodies made against infectious agents with various food antigens. J Clin Cell Immunol, 2015; 6:359.
2. Ahrazem et al. Lipid transfer proteins and allergy to oranges. Int Arch Allergy Immunol, 2005; 137(3):201-210.
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 SCl-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.