

CLINICAL SPECIFICATIONS

BLACK TEA, BREWED

Antigen Made From:

Brewed Earl Grey Black Tea

Associated With:

Black Tea immune reactivity

Known Cross-Reactions:

Clinical Significance:

There are hundreds of varieties of tea plants and are from the same species. However, all tea plants are essentially the same and contain 0.1% protein.¹ The differences between the end products of teas are due to the methods of preparation. Earl Grey tea is a black tea treated with oil of bergamot.² 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.³⁻⁵

This array tests for IgG and IgA food immune reactivity.^{6,7} Equivocal or out-of-range results indicate antibody reactivity to the tested food antigen. We tested 288 blood donor sera against black tea antigens at optimal dilution, 14.5% 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.⁸⁻¹¹

Data suggests that eliminating foods identified using IgG antibody food testing can play a role in improvement of symptoms.¹² 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.^{12,13}

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.^{12,13}

References:

1. Ramarethinam and Rajalakshmi. Caffeine in tea plants [Camellia sinensis (L) O. Kuntze]: in situ lowering by Bacillus licheniformis (Weigmann) Chester. Indian J Exp Biol, 2004; 42(6):575-580.
2. Sedaghatthoor et al. Storage period effects on the qualitative characteristics of scented tea. Int J Biosci, 2013; 3(7):66-73.
3. 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.
4. Sathe et al. Effects of food processing on the stability of food allergens. Biotechnol Adv, 2005; 23:423-429.
5. 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.
6. Barnes. IgG and IgA antibodies to dietary antigens in food allergy and intolerance. Clin Exp Allergy, 1995; 25(Suppl 1):7-9.
7. Mullin et al. Testing for food reactions: the good, the bad, and the ugly. Nutr Clin Pract, 2010; 25(2):192-198.
8. Vaishnav et al. Aquaporin 4 molecular mimicry and implications for neuromyelitis optica. J Neuroimmunol, 2013; 260: 92-98.
9. Agris et al. Plant DNA topoisomerase 1 is recognized and inhibited by human SCI-70 sera autoantibodies. Exp Cell Res, 1990;189:276-279.
10. 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.
11. Bullard-Dillard et al. Anti-Sm autoantibodies of systemic lupus erythematosus cross react with dietary plant proteins. Immunol Invest, 1992; 21(3):193-202.
12. Cordain et al. Modulation of immune function by dietary lectins in rheumatoid arthritis. Br J Nutr, 2000; 83:207-217.
13. Atkinson et al. Food elimination based on IgG antibodies in irritable bowel syndrome: a randomised controlled trial. Gut, 2004; 53(10):1459-1464.