CYREX® Laboratories

CLINICAL SPECIFICATIONS

WHEAT

Function:

Wheat is a commercially grown grain, which is processed and used in cereals, pasta, baked goods, sauces, and beverages. It is also used in pastes and glues and is raised as a fodder crop for livestock.

Antibodies Appear:

Baker's Asthma[4]
Celiac disease[1,2]
Dermatitis Herpetiformis[1]
Gluten-sensitive enteropathy[1,2]
Type 1 Diabetes[2,3]
Wheat allergy[4]
Wheat-dependent, exercise-induced anaphylaxis[4]

Known Cross-Reactions: Rye, Barley;[4,5] Soy;[4] Grass pollen;[6] Millet;[7] Insulin[8]

Clinical Significance:

The presence of antibodies to wheat is an indication of food sensitivity. The offending food and its known cross-reactive foods should be eliminated from the diet. Patients with gluten-sensitive enteropathy (Celiac disease) and/or Dermatitis Herpetiformis typically have high levels of IgG antibodies against wheat.[1] IgA antibodies against wheat are found in patients with gluten-sensitive enteropathy (Celiac disease).[1] Genetically susceptible people, prone to diabetes, have higher incidence of spontaneous Type 1 Diabetes when exposed to wheat antigens in association with a pro-inflammatory gastrointestinal environment.[3] Therefore, if antibodies to Wheat are elevated, consider follow-up testing of intestinal barrier integrity.

References:

1. Huff, et al. Wheat protein antibodies in dermatitis herpetiformis. J Invest Dermatol, 1979; 73(6):570-574.
2. MacFarlane, et al. A type 1 diabetes-related protein from wheat. (Triticum aestivum). J Biologic Chem, 2003; 278(1):54-63.
3. Mojibian, et al. Diabetes-specific HLA-DR-restricted proinflammatory T-cell response to wheat polypeptides in tissue transglutaminase antibody negative patients with type 1 diabetes. Diabetes, 2009; 58:1789-1796.
4. Palosuo. Update on wheat hypersensitivity. Curr Opin Allergy Clin Immunol, 2003; 3:205-209.
5. Nilsson, et al. Wheat allergy in children evaluated with challenge and IgE antibodies to wheat components. Pediatr. Allergy Immunol, 2015; 26:119-125.
6. Jones, et al. Immunologic cross-reactivity among cereal grains and grasses in children with food hypersensitivity. J Allergy Clin Immunol, 1995; 96:341-351.
7. Hemmer, et al. Food allergy to millet and cross-reactivity with rice, corn and other cereals. Allergol Int, 2017; 66(3):490-492.
8. Kharrazian, et al. Detection of islet cell immune reactivity with low glycemic index foods: is this a concern for type 1 diabetes? J Diabetes Res, 2017; 2017:4124967.

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