CYREX® Laboratories

CLINICAL SPECIFICATIONS

α- + β-CASEIN (saliva)

Antigen Made From:
Alpha-Casein and Beta-Casein purchased from an antigen supplier.

Antibodies Appear:
Dairy allergy[4]

Known Cross-Reactions: A5-B3 glycinin of soy,[5] cerebellar,[7] gliadin[9]

Clinical Significance:

The presence of salivary antibodies to α-Casein + β-Casein combined is an indication of loss of oral tolerance and onset of food immune reactivity. The offending food and its known cross-reactive foods should be eliminated from the diet. Cow's Milk is the most common cause of food immune reactivity in the first years of life and contributes to maladies such as gastrointestinal upset, skin problems, respiratory manifestations and anaphylaxis,[6] for some the sensitivity persists throughout one's lifetime and may contribute to autoimmunity later in life. Infants have been shown to produce salivary IgA to casein, but tend to outgrow the immune reactivity.[10] Elevated salivary antibodies to casein in infants have been shown to reflect atopic risk for developing an allergy during the first three years of life.[4] Particular autoimmunities associated with Casein include diabetes,[1] Celiac disease[2, 3, 5] and autoimmune uveitis.[9] Cow's Milk plays a role in the gastrointestinal symptoms in 50% of patients with Gluten Reactivity and Celiac disease.[2, 3, 5]

Suggested Reading:

1. Adler, et al. Insulin autoantibodies with high affinity to the bovine milk protein alpha casein. Clin Exp Immunol, 2011; 164(1):42-49.
2. Cabrera-Chávez, et al. Bovine milk caseins and transglutaminase-treated cereal prolamins are differentially recognized by IgA of celiac disease proteins according to their age. J Agric Food Chem, 2009; 57:3754-3759.
3. Kristjánsson, et al. Mucosal reactivity to cow's milk protein in celiac disease. Clin Exp Immunol, 2007; 147:449-455.
4. Renz, et al. Elevated neonatal salivary anti-casein immunoglobulin a antibodies as an indictor of atopic risk. Ped Allerg Immunol, 1991; 2(4):178-183.
5. Rozenfeld, et al. Detection and identification of a soy protein component that cross-reacts with caseins from cow's milk. Clin Exp Immunol, 2002; 130:49-58.
6. Schulmeister, et al. Cloning, expression, and mapping of allergenic determinants of αS1-casein, a major cow's milk allergen. J Immunol, 2009; 182:7019-7029.
7. Vojdani, et al. Immune response to dietary proteins, gliadin and cerebellar peptides in children with autism. Nutr Neurosci, 2004; 7(3):151-161.
8. Vojdani and Tarash. Cross-reaction between gliadin and different food and tissue antigens, Food Nutri Sci, 2013; 4:20-32.
9. Wildner and Diedrichs-Möhring. Autoimmune uveitis induced by molecular mimicry of peptides from rotavirus, bovine casein and retinal S-antigen. Eur J Immunol, 2003; 33:2577-2587.
10. Frick and Rieger. Local antibodies to α-casein and β-lactoglobulin in the saliva of infants. Ped Res, 1987; 22(4):399-401.