

CLINICAL SPECIFICATIONS

MILK BUTYROPHILIN

Antigen Made From:

Milk Butyrophilin purchased from an antigen supplier

Associated With:

Multiple sclerosis¹
 Sjögren's syndrome²
 Systemic lupus erythematosus²

Known Cross-Reactions: Myelin oligodendrocyte glycoprotein,^{1,3} Gliadin,⁴ Insulin⁸

Clinical Significance:

The presence of antibodies to Milk Butyrophilin is an indication of food immune reactivity. The offending food and its known cross-reactive foods should be eliminated from the diet. Milk Butyrophilin has a far reaching effect on the body. It can stimulate antigen-specific immune responses in both gut-associated lymphoid tissue (GALT) and peripheral immune organs,⁵ and it exacerbates central nervous system inflammation.^{1,3,6,7} Milk Butyrophilin shares a similar homology to myelin and has been shown to degrade myelin tissues through molecular mimicry and cross-reactivity.^{1,2} Patients exhibiting neurological disorders should therefore abstain from consuming milk products.

References:

1. Guggenmos et al. Antibody cross-reactivity between MOG and the milk protein butyrophilin in multiple sclerosis. J Immunol. 2004; 172:661-668.
2. Mather and Jack. A review of the molecular and cellular biology of butyrophilin, the major protein of bovine milk fat globule membrane. J Dairy Sci, 1993; 76:3832-3850.
3. Stefferl et al. Butyrophilin, a milk protein, modulates the encephalitogenic T cell response to myelin oligodendrocyte glycoprotein in experimental autoimmune encephalomyelitis. J Immunol, 2000; 165:2859-2865.
4. Vojdani and Tarash. Cross-reaction between gliadin and different food and tissue antigens, Food Nutri Sci, 2013; 4:20-32.
5. Kennel De March et al. Anti-myelin oligodendrocyte glycoprotein B-cell responses in multiple sclerosis. J Neuroimmunol, 2003; 135(1-2):117-125.
6. Lauer. Diet and multiple sclerosis. Neurology, 1997; 49(Suppl 2):S55-S61.
7. Vojdani et al. Antibodies to neuron-specific antigens in children with autism: possible cross-reaction with encephalitogenic proteins from milk, Chlamydia pneumonia and Streptococcus group A. J Neuroimmunol, 2002; 129:168-177.
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.