

# DAIRY ZOOMER



## Which Patients Need the Vibrant Dairy Zoomer?

Patients who are appropriate candidates for the Dairy Zoomer include those with the following symptoms or risk factors:

- Abdominal pain during or after meals
- Diarrhea
- Gas
- Bloating
- Colic (in infants)
- Vomiting
- Eczema or other rashes
- Mucous-filled cough
- Runny nose
- Eye irritation
- Recurring ear infections
- Other food sensitivities and allergies
- Atopic dermatitis
- Family history of dairy allergy
- Advanced age



## What Does the Dairy Zoomer Include?

Casein	Whey	Butyrophilin
$\alpha$ S1-casein & $\alpha$ S2-casein	$\alpha$ -Lactalbumin	
$\beta$ -casein	$\beta$ - Lactoglobulin	
Beta-casomorphin (BCM 7)	Serum albumin	
$\kappa$ -casein	Lactoferrin	





## Clinical Connections to Dairy Sensitivity

Delayed sensitivities to peptides in dairy can present up to 72 hours after consuming dairy foods. These sensitivities are based on IgG or IgA antibody-driven reactions and can affect both the local intestinal environment with acute symptoms, as well as the extra-intestinal systems from the skin, to the joints, brain, and other internal organs and tissues.

Detecting sensitivity to cow's milk can be difficult due to its ubiquitous presence in the Western diet, symptom overlap with other common conditions, and the often delayed nature of sensitivity symptoms.

<b><math>\alpha</math>2S- casein</b>	Antibodies to $\alpha$ 1 beta casein may be associated with retinal autoimmunity <sup>1</sup>
<b>A1 <math>\beta</math>-casein</b>	Antibodies to A1 $\beta$ -casein have been shown to have associations with Type 1 Diabetes <sup>2</sup>
<b>Butyrophilin (BTN)</b>	There is high sequence similarity between butyrophilin and myelin oligodendrocyte glycoprotein (MOG), a known autoantigen associated with multiple sclerosis. Exposure to BTN may influence the composition and function of MOG-specific autoimmune response <sup>3</sup>
<b>Beta-casomorphins (BCMs)</b>	Beta-casomorphin has been shown to have associations with autism, and is found in higher concentrations in the urine of autistic individuals <sup>4</sup>

<sup>1</sup> Wildner G, Diedrichs-Möhring M. Autoimmune uveitis and antigenic mimicry of environmental antigens. *Autoimmunity Reviews*.2004;3:383-7

<sup>2</sup> Adler K, Mueller DB, Achenbach P, et al. Insulin autoantibodies with high affinity to the bovine milk protein alpha casein. *Clinical and Experimental Immunology*. 2011;164(1):42-49.

<sup>3</sup> Guggenmos J1, Schubart AS, Ogg S, Andersson M, Olsson T, Mather IH, Linington C. Antibody cross-reactivity between myelin oligodendrocyte glycoprotein and the milk protein butyrophilin in multiple sclerosis. *J Immunol*. 2004;172(1):661-8.

<sup>4</sup> Sokolov O, Kost N, Andreeva O, Korneeva E, Meshavkin V, Tarakanova Y, Dadayan A, Zolotarev Y, Grachev S, Mikheeva I, Varlamov O, Zozulya A. Autistic children display elevated urine levels of bovine casomorphin-7 immunoreactivity. *Peptides*. 2014 Jun; 56: 68-71



## Treatments and Interventions

Standard practice in food sensitivity testing is to eliminate foods to which one is sensitive, create a rotation diet of non-reactive foods, then reintroduce the sensitive foods once the intestinal barrier is repaired and immune tolerance is restored to the gut.

However, because of the highly reactive nature of dairy-based peptides, reintroduction may not be possible for all individuals.

Consider testing for intestinal permeability on the Vibrant Wheat Zoomer to assess status of barrier function before, during, and after interventions.

Consider long-term elimination of cow's milk dairy products.

If antibodies to milk butyrophilin are present, consider running a Vibrant Neural Zoomer to assess presence or risk for cerebellar autoimmunity.

### Regulatory Statement

The general wellness test intended uses relate to sustaining or offering general improvement to functions associated with a general state of health while making reference to diseases or conditions. This test has been laboratory developed and its performance characteristics determined by Vibrant America LLC, a CLIA and CAP certified laboratory performing the test. The test has not been cleared or approved by the U.S. Food and Drug Administration (FDA). Although FDA does not currently clear or approve laboratory-developed tests in the U.S., certification of the laboratory is required under CLIA to ensure the quality and validity of the tests.

