# A1 and A2 Milk Proteins and Food Sensitivity Testing

*By: Dr. Jennifer Cisternino, ND*

In this article, I am happy to discuss the **IgG Food Sensitivity Test** and a case study. I also want to highlight two milk proteins, A1 and A2 and give you some insight into their differing health effects. If you are not already using the IgG Food Sensitivity Test in your practice, then I want you to pay extra attention. This test is integral to any patient who wants to improve overall health. If your patient is complaining of bloating, weight gain, swelling in their extremities, arthritis, headaches, mood and hormone changes, constipation, diarrhea and more, this test can be insightful.

What I have found over the years is that patients seeking my counsel are conflicted when it comes to the best diet for themselves because of the overload of information coming from different doctors, nutritionists, celebrities, bloggers and social media as a whole. I always tell my patients, "one diet does not fit all". I let them know that this test is a great way to assess ***individual food intolerances.***

It is important that your patients have a good understanding of the role IgG antibodies play in leading to chronic inflammation. It is normal for the body's immune system to produce IgG antibodies to specific foods in the diet, as the food is considered "foreign". The food antigen and IgG antibodies form immune complexes. When everything is working, an efficient immune system will clear these immune complexes. But if there is an overload of antigen (food) or poor immunity, these complexes can cross into the blood stream and deposit into the different tissues leading to chronic inflammation. This is considered a delayed reaction, as symptoms may not appear for some time. Patients need to understand that food IgG intolerances are not allergies which are a result of IgE antibodies. IgE reactions are quite often immediate and can lead to severe and life-threatening reactions.

There are several published studies that support the food IgG intolerances. There are too many to list in this newsletter, but I would like to highlight a couple. A study was published in the Journal of Food and Nutritional Research (Onmus, 2016) that showed that obese patients can lose weight with an elimination diet with no significant changes in fasting glucose or cholesterol. Another study published in the Journal Headache (Mar; 53(3):514-25), concluded that food elimination based on IgG antibodies in migraine patients who suffer from concomitant IBS, may effectively reduce symptoms from both disorders with possible positive impact on the quality of life as well as potential savings to the health-care system.

When I was in naturopathic school, one of the ways we were taught to determine food sensitivities was by completing an *elimination diet*. Does this ring a bell for any of you? This was extremely difficult to do and compliance was an issue with most patients. If you are not aware of the elimination diet, it is a strict diet avoiding most foods that may be considered "inflammatory" by most people. This diet includes the removal of gluten, dairy, soy, eggs, meat, certain vegetables and fats. After removing these foods from your diet for 3 weeks, you are then instructed to introduce one food group at a time for 3 days to see how your body reacts.

This process of reintroduction continues until all different foods are back in your diet. You can imagine how difficult this can be and in addition to its strict guidelines, it can be hard for people to decipher how they feel and what is truly causing their symptoms. Thank goodness for the development of this test. CanAlt Labs has a great reputation when it comes to the specificity and sensitivity of testing. Time and time again, the quality of the results is shown in my patient results. This is a test you can trust.

## Patient Case

I would like to share a successful patient case with you.

B. D, 44 .y.o female, came into my office with complaints of bloating, weight gain and overall fatigue.

She had tried many different diets to no avail. She was ready to give up. I suggested an IgG food intolerance test and she was eager and excited that such a test existed and it could help her decide which foods to eat. I do want to add this point here. Fear of food is a real thing these days. More than ever, people are confused about what food is good for them. This test can help guide you in guiding them to eat for their unique needs. It can take the stress out of eating.

Here is a snip of her test results. I have highlighted for you the most notable food categories that were seen to have the most inflammatory foods in this patient.

| ELEVATED (≥30 U/ml) | | BORDERLINE (24-29 U/ml) | | NORMAL (≤23 U/ml) | |
|---|---|---|---|---|---|
| **DAIRY / EGG** | | | | | |
| 0 | Alpha-Lactalbumin | 101 | Egg White | 102 | Milk (Cow) |
| 3 | Beta-Lactoglobulin | 26 | Egg Yolk | 45 | Milk (Goat) |
| 107 | Casein | 0 | Milk (Buffalo) | 46 | Milk (Sheep) |
| **GRAINS (Gluten-Containing)*** | | | | | |
| 77 | Barley | 42 | Malt | 53 | Wheat |
| 12 | Couscous | 27 | Oat | 10 | Wheat Bran |
| 19 | Durum Wheat | 9 | Rye | | |
| 34 | Gliadin* | 16 | Spelt | | |
| **GRAINS (Gluten-Free)** | | | | | |
| 33 | Amaranth | 5 | Millet | 0 | Tapioca |
| 13 | Buckwheat | 8 | Polenta | | |
| 40 | Corn (Maize) | 17 | Rice | | |

I find these first three categories to have the most dramatic impact on one's symptoms. Dairy tends to create a lot of inflammation and removing it from the diet can yield dramatic improvements. Dairy has gotten a bad rap lately and this is further demonstrated in the fact that dairy is no longer an essential category in the Canada's Food Guide. In the past decade, more research has been aimed to look at the different proteins in dairy and how they affect the body.

## A1 and A2 Milk Protein

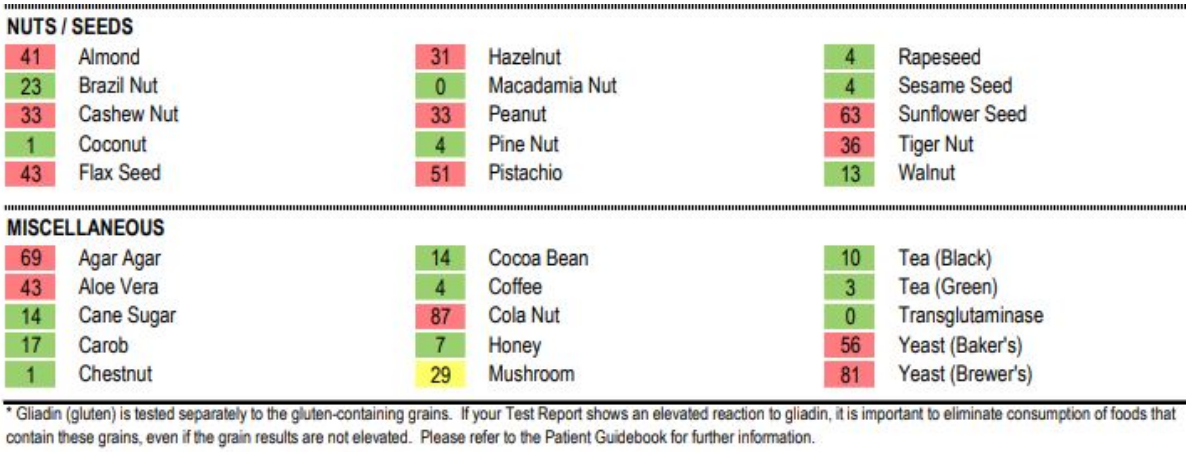
Cow's milk generally contains two types of β-casein; A1 and A2 types. Several research studies have demonstrated that A1 and A2 proteins found in milk affect the body differently. When A1 milk protein is digested in the small intestine, it produces a peptide called beta-casomorphin-7 (BCM-7). The intestines absorb BCM-7 and can cause digestive discomfort in some people. A study from the Nutritional Journal aimed to compare the effects of milk containing A1 β-casein with those of milk containing only A2 β-casein on inflammation, symptoms of post-dairy digestive discomfort (PD3), and cognitive processing in subjects with self-reported lactose intolerance. Compared with milk containing only A2 β-casein, the consumption of milk containing both β-casein types was associated with significantly greater PD3 symptoms; higher concentrations of inflammation-related biomarkers and β-casomorphin-7; longer gastrointestinal transit times and lower levels of short-chain fatty acids. Because elimination of A1 β-casein attenuated these effects, some symptoms of lactose intolerance may stem from inflammation it triggers, and can be avoided by consuming milk containing only the A2 type of beta casein. (Jianqin S et. al, 2016. Nutrition Journal. Vol 2;15:35)

It has been found that the structure of A2 protein in cows' milk is more comparable to human breast milk, as well as milk from goats, sheep and water buffalo. Research has shown that A2 milk is naturally easier to digest and provides relief for people who wish to continue to consume milk and dairy products. For anyone who experiences digestive issues drinking regular milk, A2 milk may be an option for those who wish to enjoy the full nutritional benefits of milk again. A2 milk is widely available in Australia, New Zealand, America, United Kingdom and China. It is recently making its way into the Canadian market.

At this point in time, more research is needed in the human population to accurately determine if A2 milk is the best option for people. I do want you to be aware of this knowledge and use it on a case by case basis. I would like to add a certain point here as well. If your patient's food intolerance test demonstrates a high sensitivity to cow's milk, then the A2 milk would not benefit them as they are to be completely avoiding milk from a cow, regardless of the protein found within it.

## Patient Case

In addition to dairy, I advised her to avoid gluten and if you see below, she was advised to stay away from certain nuts and seeds as well as some other notable trigger foods in the miscellaneous category. Through proper education, meal suggestions and a healthy dose of inspiration, she left my office with confidence and a plan.



| NUTS / SEEDS | | | | | |
|---|---|---|---|---|---|
| 41 | Almond | 31 | Hazelnut | 4 | Rapeseed |
| 23 | Brazil Nut | 0 | Macadamia Nut | 4 | Sesame Seed |
| 33 | Cashew Nut | 33 | Peanut | 63 | Sunflower Seed |
| 1 | Coconut | 4 | Pine Nut | 36 | Tiger Nut |
| 43 | Flax Seed | 51 | Pistachio | 13 | Walnut |

| MISCELLANEOUS | | | | | |
|---|---|---|---|---|---|
| 69 | Agar Agar | 14 | Cocoa Bean | 10 | Tea (Black) |
| 43 | Aloe Vera | 4 | Coffee | 3 | Tea (Green) |
| 14 | Cane Sugar | 87 | Cola Nut | 0 | Transglutaminase |
| 17 | Carob | 7 | Honey | 56 | Yeast (Baker's) |
| 1 | Chestnut | 29 | Mushroom | 81 | Yeast (Brewer's) |

* Gliadin (gluten) is tested separately to the gluten-containing grains. If your Test Report shows an elevated reaction to gliadin, it is important to eliminate consumption of foods that contain these grains, even if the grain results are not elevated. Please refer to the Patient Guidebook for further information.

Fast forward one month later, she lost 10 lbs, had no bloating and was full of energy. She couldn't thank me enough for all the guidance she received. One year later, this patient has continued to eat according to her intolerance test and is reaping the benefits of good health and digestion, not to mention how many people she has referred to get this test done.

This is just one example of the many success cases I have had with the ***IgG Food Sensitivity Test***.

I advise you to keep this test in your tool box to help patients better understand their bodies and use it as a way to direct and guide one in eating for wellness. If you have experienced some great results while using this test in your practice, I would love to hear about it!

In good health,

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