



Breaking Down Gluten

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Gluten free is everywhere. Gluten free THIS, Gluten free THAT. The market is in the billions and getting bigger. That is a lot of people avoiding wheat. This exploding market is linked to particular health problems in today's population. People are sick and they are willing to try unconventional methods to get their health back.

Besides the fact that commercially available wheat is sprayed with the anti-microbial agent "roundup" as a ripening agent before harvest, what else is causing problems with the staff of life?

Due to genetic restructuring there is 50% more gluten in wheat than there was 50 years ago. Gluten represents approximately 50% to 80% of the protein found in wheat, barley and rye grains.

Another change in gluten is the high proline content which is difficult for the proteases of the gastrointestinal tract to degrade. This leaves large proline rich gluten fragments intact which can and do



trigger pro-inflammatory immune responses resulting in gut and tissue destruction.

In other words gluten is a major trigger for leaky gut. This is one reason wellness or functional doctors encourage their patients to stay off all gluten foods. But the problem is that gluten is a cheap food additive, making it very difficult to avoid entirely, even when trying to follow a gluten free diet.

When cooking from scratch or eating at home, avoiding gluten is easier but when

eating out, people have no idea what they are ingesting. Even gluten free products have additives and emulsifiers that can be problematic.

Biotics Research Corporation, a leader in nutraceutical grade supplements, set out to find an enzyme that could really digest gluten and at the same time provide nutrients that would assist in healing the gut.

One of the problems with finding digestive enzymes for gluten is that multiple enzymes work in the petri

dish but when exposed to the changing pH of the GI tract they are ineffective. These enzymes are effective when the pH is between 7 and 8, which is outside the pH range of the stomach; but when these enzymes are exposed to pepsin in the stomach they are substantially degraded. However, one enzyme has been shown to be effective in human trials, Tolerase G.

Tolerase G is a specialized enzyme preparation providing prolyl endopeptidase and has been shown to significantly degrade gluten (Gliadin- α 3) in the stomach and duodenum of human volunteers. Tolerase G is stable and active under gastric conditions.

Let's look at a recent study. Four different enzyme preparations are tested. The numbers on the left side of the graph represent the percentage of the "gliadin signal" remaining. Gliadin is the most abundant protein in wheat, contained within gluten.

At the top is 100% gliadin and the bottom is 0. The numbers on the bottom of the graph represent the time and range from 0 minutes to 30 minutes.

At the start of the experiment everyone starts at 100% prior to exposure to the enzymes. You can see the changes over the time intervals.

Supplement A, represented by green dots, shows a 50% reduction in 30 minutes. Supplement B, the blue dots, and supplement C, the light blue dots, have approximately 25-35% remaining gliadin after 30 minutes. Finally AN-PEP, the light tan dots, which is commercially available as Tolerase-G shows complete digestion in 30 minutes.



The obvious result in this study is that gluten-digesting enzymes currently available on the market are not very effective unless the label contains Tolerase-G because the remaining 30-50% will still over stimulate the immune system and cause cell damage and leaky gut.

Gluterase from Biotics Research Corporation combines the Tolerase- G enzyme with foods that are designed to support tissue integrity and gut healing. Here are the ingredients: Gamma oryzanol (from rice), a mixture of sterols and ferulic acid esters, has been documented to effectively support gastric healing. Okra, as a mucilaginous nutrient, provides significant support to mucous membranes.

Okra also provides pectin and possesses plant based antioxidant activity. Marshmallow extract and its polysaccharides further support mucosa health. Vitamin U Complex is a methionine derivative shown to protect intestinal membrane cells in humans and has been documented to support gastric healing. And finally, Superoxide Dismutase and Catalase (from vegetable culture) are two very important antioxidant enzymes to put out oxidative inflammation

Many of the other so-called "gluten digestive enzymes" continue to cause inflammation and contribute to leaky gut. Gluterase has shown to be effective where other gluten digestive supplements have failed.

If you are sensitive to gluten, even though you have eliminated gluten from your diet, consider a trial of Gluterase. Of course, it's not an excuse to eat gluten, especially if you have a compromised GI tract; however, if you may be exposed to gluten when you eat out, don't risk a flare up. Ask your wellness clinician about Gluterase.

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