

New Gluten Digestive Enzyme

"A lot of people are avoiding wheat but gluten is a cheap food additive making it very difficult to avoid entirely."

The gluten free market is huge and getting bigger, how big depends on the source cited. But even the most conservative sources would say it is in the billions of dollars per year. That is a lot of people avoiding wheat.

This exploding market is linked to problems in today's patient 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 "round-up" as a desiccant or 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 T cell 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, patients have no idea what they are ingesting.

Even gluten free products have additives and emulsifiers that can be problematic. So Biotics Research wanted 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 (Gli- 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. As a refresher, 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 intervals of time. 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, represented with the light tan dots, which is commercially available as Tolerase-G, shows complete digestion in 30 minutes. Interestingly, the addition of another supplement in the capsule, the white dots, does not diminish its effectiveness.

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 activate immunologic T cell and cause cell damage and leaky gut.

A new product, Gluterase from Biotics Research Corporation, combines the Tolerase-G enzyme with foods that are designed to support tissue integrity and gut healing. For example, 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 mucilage, 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. Effects include stimulating the formation of gastric mucous, providing antioxidant activity, and acting as a methyl donor.

And finally superoxide dismutase and catalase (from vegetable culture) are two very important antioxidant enzymes to put out oxidative inflammation.

Knowing the huge market that is already present, and that many of the so-called gluten digestive enzymes continue to cause inflammation and contribute to leaky gut, Gluterase is a viable option. The suggested dose is two with each meal. As a reminder, this product is not an excuse to eat gluten, especially if you have a compromised GI tract. However, you may be exposed to gluten when you eat out, so consider a trial of Gluterase.

Thanks for reading this week's Tuesday Minute edition. I'll see you next Tuesday.