

SMART SUPPLEMENTS
 BY CJ PUOTINEN

BOLSTER HEALTH WITH ENZYMES

THEY DO MORE THAN JUST HELP YOU DIGEST

ENZYMES ARE PROTEINS THAT ACT AS CATALYSTS THAT SPEED THE COMPLETION OF NATURAL CHEMICAL PROCESSES IN THE BODY. OUR BODIES PRODUCE ENZYMES, AND WE ALSO OBTAIN THEM FROM RAW FOODS.

After age 40, our ability to produce enzymes decreases by 20 to 30 percent. The presence of enzymes in the saliva of young adults is as much as 30 times higher than in people over age 69. Because enzymes in food are destroyed by heat, cooked and processed foods can't help us make up the difference, and this can lead to an enzyme deficiency.

Some scientists believe that we could live longer and be healthier by preventing the loss of enzymes. This is where enzyme supplements come in.

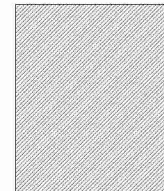
Digestive Support

The most familiar enzymes are sold for digestive support. Historically, pancreatic enzymes from pigs and cattle have addressed pancreatic insufficiency, while plant-based enzymes such as bromelain from pineapple effectively break down proteins.

Other widely used enzymes include papain from papaya and rutin, derived from the plant *Sophora japonica*. Taking plant-based enzymes 40 minutes before meals can help with heartburn, according to [Jacob Teitelbaum, MD](#).

The common enzymes that can help digest food (and prevent heartburn) are amylase (which helps digest carbs), cellulase (which helps digest the fiber in fruits and veggies), and lipases (which help digest fattier foods).

Some research has shown that digestive enzymes help prevent undigested food particles from entering the bloodstream, and a 2005 study published in *Clinical Immunology* demonstrated the efficacy of bromelain as a treatment for colitis. ▶▶▶



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Another familiar enzyme supplement is lactase, the enzyme required to digest the milk sugar in dairy products. The production of lactase often decreases after childhood, leading to lactose intolerance.

Enzyme supplements can be taken to improve other conditions, such as osteoarthritis, rheumatoid arthritis, and other inflammatory diseases, or to speed the healing of trauma injuries. This approach, called systemic oral enzyme therapy, involves taking enteric-coated digestive enzymes between meals. The enteric coating prevents enzymes from interacting with stomach acid, so they reach the small intestine before breaking down.

The medical journal *Arthritis* recently reported that a randomized, double-blind, placebo-controlled trial evaluated adults with moderate to severe osteoarthritis of the knee who received an enteric-coated enzyme product, the NSAID (non-steroidal anti-inflammatory drug) diclofenac, or a placebo. The enzyme combination performed as well as diclofenac while producing fewer side effects and reducing reliance on analgesic medication. Both out-performed the placebo.

According to Brent Bauer, MD, director of the Mayo Clinic Complementary and Integrative Medicine Program, most over-the-counter enzymes are unlikely to produce adverse side effects, though some users experience gastrointestinal upset or irritation.

Bromelain may have anti-platelet activity so it's not recommended for those taking blood thinners, and Dr. Bauer does not recommend bromelain for children with cystic fibrosis. ■■■

SELECTED SOURCES "Digestive Enzymes: Help or Hype?" by Tamara Duker Freuman, *US News & World Report*, 4/23/13 ■ **Disease Prevention and Treatment** (\$38.64, LE Publications, 2013) ■ "The Role of Enzyme Supplementation in Digestive Disorders" by M. Roxas, *Altern Med Rev*, 12/08 ■ "The Safety and Efficacy of an Enzyme Combination in Managing Knee Osteoarthritis Pain in Adults: A Randomized, Double-Blind, Placebo-Controlled Trial" by W.W. Bolten et al., *Arthritis*, 1/31/15 ■ "Should You Add Enzyme Supplements to Your Shopping List? Mayo Expert Explains Pros & Cons," www.MayoClinic.org, 8/4/14 ■ "Systemic Enzyme Therapy in the Treatment and Prevention of Post-Traumatic and Postoperative Swelling" by V. Kamenicek et al., *Acta Chir Orthop Traumatol Cech*, 2001 ■ "Treatment with Oral Bromelain Decreases Colonic Inflammation..." by L.P. Hale et al., *Clin Immunol*, 8/05

