



**White Paper**  
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**Enzyme Therapy**  
**Digestion**

Digestion begins in the mouth when food is mixed with saliva. Saliva supplies fluids containing the digestive enzyme, amylase. When you eat raw food (high in enzymes), the enzymes work with the salivary amylase to begin digestion.

The food and salivary enzymes continue the digestion process until the secretion of stomach acid causes the pH to drop below 3.0, which is the activity range of plant enzymes. Before food arrives, the stomach normally has a pH between 5.0 and 6.0. In young and healthy adults it takes about 45 minutes before enough acid is generated to drop the pH to 3.0. During this time a considerable amount of digestive work can be accomplished if plant enzymes are present in either the raw food ingested or from a supplemental source.

More than seventy years ago, Olaf Bergeim conducted a series of experiments on salivary digestion at the University of Illinois, College of Medicine in Chicago. He found that an average of 59-76% of ingested carbohydrates is digested within 15-30 minutes after a meal. He concluded that a very considerable degree of starch digestion might be brought about by saliva and chewing food properly.

Plant enzymes are important because they are capable of digesting food before the body's own digestive process begins. In other words, plant enzymes can enhance the digestion of food and the delivery of nutrients to the blood even if you have a compromised digestive system.

Stomach acid does not digest food. Rather, it activates an enzyme called pepsinogen, which then becomes pepsin that is secreted by the stomach wall. This enzyme is only active within the pH range of 3.0 to 5.0 and requires the acid to maintain that pH. This enzyme is responsible for digesting food, specifically protein, not stomach acid. **IF YOU DO NOT HAVE ENOUGH ACID IN YOUR BODY FROM TAKING ANTACIDS, DIGESTION CANNOT OCCUR EFFICIENTLY.** Once their digestive function in the gastrointestinal tract is completed, a large number of enzymes are absorbed through the gut wall and work in the bloodstream.