



Dietary Supplementation using Enzymes

ENZYMES AND THEIR ROLE IN NUTRIENT ABSORPTION:

Food is made up of large organic molecules commonly referred to as carbohydrates, fats, and proteins. For the body to access the nutritional value of food, these molecules must be broken down to a more bioavailable size. This is where enzymes play a vital role.

There are two types of enzymes that our bodies naturally produce - digestive enzymes and metabolic enzymes. Digestive enzymes are responsible for the digestion of food and absorption of the nutrients into our bodies. Metabolic enzymes are responsible for the growth of new cells and the repair and maintenance of the body's organs and tissues.

Enzymes are specialized, high molecular weight proteins composed of amino acids naturally produced by all living organisms. They act as catalysts for physiological processes that are essential for the growth and life of all living matter. In essence, digestive enzymes break down food into smaller molecules making it easier for the body to absorb these nutrients.

ENZYMES AS DIETARY SUPPLEMENTS:

Enzymes are used extensively in many industries such as food, feed and household care. They are also used in the dietary supplement industry. Supplemental use of enzymes is most commonly used to support the digestive process. When digestive enzyme supplements are consumed, they provide support to the bodies naturally occurring enzymes.

Enzymes used in dietary supplements are usually referred to by their common names and may be of animal, plant, fungal, or bacterial origin. Most enzymes are very specific in their ability to catalyze only certain chemical reactions, this high degree of specificity and strong catalytic activity are the most important functional properties of enzymes.

Examples of digestive enzymes that help with certain digestive issues include alpha-galactosidase, an enzyme that reduces gas and bloating caused by certain foods and lactase which is used to break down lactose from dairy products. These are just two examples of how supplemental enzymes can assist the body's ability to break down complex foods into simpler forms and improve digestion.

There are many dietary supplement choices on the market today. Most dietary supplements can be purchased without a prescription. However, it is important to consult with your doctor before starting any dietary supplement regimen and talk about the potential benefits of enzyme supplementation for your particular needs.

REGULATION OF DIETARY SUPPLEMENTS:

Governmental regulation of dietary supplements can vary around the world. In North America, dietary supplements are regulated by the Food and Drug Administration (FDA) in the United States, by Health Canada as Natural Health Products and by the Comisión Federal para la Protección contra Riesgos Sanitarios (COFEPRIS) in Mexico. Each country has specific regulatory review and approval requirements before a dietary supplement can be placed on the market. Make sure to consult with the authorities for your country of interest to determine the legal process that is right for your product. Below are links to websites for additional guidance.



For further information on how dietary supplements are regulated in the U.S. - reference

<https://www.fda.gov/food/dietarySupplements/>

For further information on how natural health products are regulated in Canada - reference

<https://www.canada.ca/en/health-canada/services/drugs-health-products/natural-non-prescription.html>

For further information on how dietary supplements are regulated in Mexico - reference

<https://www.fda.gov/InternationalPrograms/Agreements/MemorandaofUnderstanding/ucm107612.htm>

CONCLUSION:

Enzymes break down ordinary food into substances that help support human life and give our bodies the ability to fully realize the benefits of that nourishment. Enzyme supplementation, through proper dietary supplement use, can play an important role in our daily lives and in our desire to maintain well-being and health.