

The Natural Pharmacy Newsletter

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In The News

Test Your Enzyme Knowledge: Important Facts You Should Know

Enzymes are delicate lifelike substances found in all living cells whether animal or vegetable. Enzymes are proteins that help regulate every biochemical reaction within the human body making them necessary for life. Digestive enzymes turn the food we eat into energy and unlock this energy for use in the body.

There are three types of enzymes-metabolic enzymes, digestive enzymes, and food enzymes. **Metabolic enzymes** either speed up or slow down the chemical reactions within the cells helping to regulate every biochemical reaction within the cell. These enzymes allow us to hear, feel, see, move, and think. **Digestive enzymes** are secreted along the digestive tract to break down food into nutrients and waste. Most of the digestive enzymes are produced in the pancreas. The liver, gallbladder, small intestine, stomach and colon also produce important enzymes. Digestive enzymes allow foods we consume to be broken down and absorbed into the blood stream. **Food enzymes** are introduced into the body with the raw foods we eat and through supplemental enzyme products. Raw foods contain only enough enzymes to help digest the food being consumed and not enough to be stored in the body for future use. Cooking and processing, unfortunately, destroy all of the food enzymes. Unless we take an enzyme supplement, we must

depend on our bodies to produce most of the enzymes to properly break down the food we eat.

We are born with the ability to produce a limited number of enzymes. This may be due to differences in our genetic makeup. This ability gives our body's organs the ability to produce either metabolic or digestive enzymes. Since digestion always takes precedence over nearly everything else, metabolic enzymes are many times shortchanged. This may lower the body's defense system to fight disease. As this limited supply of enzymes is used up, we may lack necessary enzymes to break down certain foods. This could lead to malabsorption, poor nutrition, and digestive problems.



By specific design, enzyme combinations can be used to support the body helping it to properly digest food and fight certain health care conditions. A company by the name of Enzymedica combines specific enzymes for specific symptoms. I find it interesting that all this company produces is plant based enzyme combination. They use no fillers or binders and they are 100% vegetarian. Every batch of product that they produce is 3rd party tested. They also use special blends of their enzymes that are effective over the entire range of gut pH's. Using

proteases as an example, it may take three specific types of proteases to cover the pH range from 2-11. By using this special combination, the gut does not destroy the enzyme at a specific pH but the product is effective through the entire gut.

Enzymedica produces several combination enzymes for digestive distress, gas and bloating, lactose intolerance, gluten intolerance, allergies, fat metabolism, immune support, mucous production, candida, and sports injuries. They even make special formulas for children and adults that have problems taking capsules.



If you have further questions about the importance of enzymes or would like to take our enzyme deficiency test, please ask one of our knowledgeable staff.

What Do Sunscreens, M&M's, and Unborn Children Have in Common?

Over the next couple of months I want to bring you up to date on some very exciting and also some very troubling items that I learned at my recent educational conferences in California.

One of my seminars entitled Nanotechnology 101 was very interesting and yet scary. Nanotechnology can best be defined as the art and science of building stuff that does stuff at the nano level. What is a nanometer? It is one billionth of a meter. If you took one drop of water and spread it evenly over a three square foot area, that would be approximately a nanometer. A picture that better describes a nanometer is

that a nanometer is to a three foot tall child as the head of a pin is to the moon.

When particles of substances are reduced in size by this much, the characteristics of the substance changes. For instance gold at the nano particle size is green and soluble in water. These differing characteristics are currently being used in over 600 products to "improve our life". Nano silver gauze is being used as an antibacterial in treating wounds, food storage containers are being lined with nanotech material to preserve food and extend shelf life, ketchup bottles are lined with nanotech products that allow better flow and reduce clogging at the opening, and nanotech titanium dioxide is being used in sunscreens and to coat the chocolate in M&M's.

The FDA currently evaluates nanotech products as they would a larger macro product. The problem lies in the fact that, as we saw above with gold, the characteristics are not the same. For instance, the larger (macro) particles of titanium dioxide used in sun screens do not cross the barrier between the blood and the brain *BUT* the nano size particles do. Unfortunately we don't know if the brain has a mechanism for getting rid of small particles of titanium dioxide. It is of such concern that nano size titanium dioxide has now been outlawed in sunscreens for infants. But what about the pregnant mother using a sunscreen with nano size titanium dioxide? Will it cross the placental barrier? We just don't know. To add to the problem, sunscreens are not labeled in such a way that you can tell if it uses nanotechnology in it's product. I spent a great deal of time in California looking for a product that I felt could act as a safe sunscreen and have decided that floppy hats and long sleeves as well as sun in moderation is most likely a better idea.

What about the 124 billion M&M's made each year? The scientist at my lecture confirmed that the coating separating the chocolate and outside layer does contain nanotech titanium dioxide. I couldn't confirm it with any online source but I've decided to encourage you to eat more fruits and vegetables and forget the M&M's for now until we have a better idea of the impact of long term use of nanotechnology particles.