



NAS Enhancer: Boost Multiple Biologic Pathways to Increase Health and Longevity!

We talk a lot about genome *SNPs*, which are basically mutations or glitches in our DNA that under the right environment may be ignited and predispose us to disease. Before we launch into more information about the benefits of **NAS Enhancer** (formerly named Nrf2/SOD Enhancer), let's first get a clear understanding of certain terminology. When your practitioner talks about alleles in your genome profile, he/she may mention terms like MTHFR, NRF2, SOD or mTOR.

The term **Enzymes** for example are protein molecules in cells which work as catalysts. I like to think of a catalyst like a preacher that unites a couple in marriage but has nothing to do with the relationship. Enzymes unite one chemical reaction in the body with another, but do not get used up in the process. Almost all metabolic reactions in living things need enzymes. MTHFR, NRF2, SOD or mTOR and thousands of others are predominantly enzyme encoding genes. When we have a (++) or (+-) next to one of those terms on our genomic profile we may have a more significant reduction in the function of the enzyme sequence it's related to.

The term **Transcription** is the first step of gene expression, in which a segment of DNA is copied into RNA (especially mRNA).

The term **Basic Leucine Zipper** is found in many DNA binding proteins required to hold together two DNA binding regions. **Nrf2** is a basic leucine zipper protein that regulates the expression of antioxidant proteins that protect against oxidative damage triggered by injury and inflammation. Increased oxidative stress is associated with neuronal cell death relating to multiple chronic neurodegenerative diseases. **Nrf2** activation is a novel neuroprotective pathway that presents resistance to a variety of oxidative stress-related neurodegenerative insults leading to diseases such as Alzheimer's disease, Parkinson's disease, Huntington's disease and amyotrophic lateral sclerosis.

SOD is one of the body's primary internal anti-oxidant defenses and plays a critical role in reducing the oxidative stress. Studies have shown that **SOD** can play a critical role in reducing internal inflammation and lessening pain.

mTOR is an enzyme which regulates cell growth, cell division, cell movement, cell survival, protein synthesis, transcription, (see above) and **autophagy**, (remember, that's our cellular house cleaning mechanism: see part 2 blog on D-chiro inositol). **mTOR** is good sometimes and bad other times. **mTOR** increases energy production, but also creates more junk products in the cell. Sometimes we want to increase it to grow muscle and improve certain aspects of cognition, while the rest of the time we want to have low levels to increase longevity, decrease cancer risk and decrease inflammation.

Now that we know some of the terminology let's talk about **N.A.S. Enhancer™**. Dr. Stewart has put together a unique combination of well-studied nutritional ingredients that are known to enhance multiple biologic pathways within the cell. This unique combination was chosen to enhance 3 important pathways of intracellular detoxification. The 3 pathways include:

- 1) Activating the leucine zipper protein in the **NRF2** genetic pathway to reduce oxidative stress and enhance glutathione production.
- 2) Down regulating the **mTOR** system of the cell, to decrease inflammation and activate autophagy.
- 3) Providing maximum assistance with antioxidant neutralization within the cell by using **SOD**.