K9Medicinals Immune Support/Armor Up (AU) contains some of the most effective dietary and endogenous antioxidants (can be also called standard antioxidants) known to science – in the clinical proportions and combinations needed to reduce oxidative damage to DNA and other cells by directly scavenging free radicals.

K9 Medicinal Mushrooms, herbal extracts and specific micronutrient combinations work in another way to reduce oxidative damage to DNA indirectly by increasing antioxidant enzymes activities through enhancing the levels of nuclear transcriptional factor (Nrf2). This Nrf2 is a vital immune system communication link. In chronic sickness and inflammation it "turns off" and does not communicate correctly with the body's defenses.

Increased expression of Nrf2 increases antioxidant enzymes levels. In order to protect DNA damage optimally (which is critical to cancer prevention and tumor suppression), activation of antioxidant enzymes alone may not be sufficient to destroy excessive levels of free radicals that are present in most human chronic diseases. It is essential that the remaining excess free radicals that are not destroyed by antioxidant enzymes, are quenched by dietary and endogenous antioxidants. Thus, the K9Medicinals Immune Support (AU) multi-formula approach includes Polysaccharide, Nrf2, herbal, micronutrient and antioxidant combinations that compliment each other in protecting DNA against damage produced by free radicals.

Research done by the U.S. Department of Defense show that multi- formulas, like K9Medicinals Immune Support (AU) can reduce double strand DNA breaks (a form of DNA damage) in cells.

In cancer cells which have already damaged DNA, some genes, such as c-myc and H-ras (oncogenes) are produced in excessive amounts which are essential for the growth of cancer cells. These U.S. studies on Vitamin E succinate formula reduced the production of excessive amounts of these oncogenes, and reduced the growth of cancer cells.

Thus, the multi-formula (multi-therapy) approach, like K9Medicinals Immune Support (AU) has shown to support and protect DNA against damage produced by free radicals in normal cells, and repair the damaged DNA in cancer cells.

K9Medicinals Immune Support (AU) can defend protein receptors from oxidative damage. Defending them properly will give the cells and their receptors, a chance to start working properly and can help produce a positive health outcome for your pet."

> One of the things we learned was that DNA, cell structure, receptors and vital genes were quickly damaged or muted (unable to communicate with the immune system correctly) when canines are in an unhealthy state. In sickness, canine's bodies enter into a high chronic inflammation & oxidative stress state. K9Medicinals Immune Support (AU) is scientifically designed to reverse or defend against this.

Our medicinal mushroom blend contains a combination of over 200 highly purified, immune-active High Molecular Weight (HMW) Hetero-polysaccharides and Beta 1,3-1,6 triple right hand helix Beta Glucans.

600 mg of 100% USDA Certified Organic, Certified Kosher, biotech lab cultivated, full spectrum, non-GMO medicinal mushroom species: *Agaricus blazei - Cordyceps sinensis - Grifola frondosa - Ganoderma lucidum - Coriolus [Trametes] versicolor - Lentinula edodes – micronized for maximum bioavailabilty.*

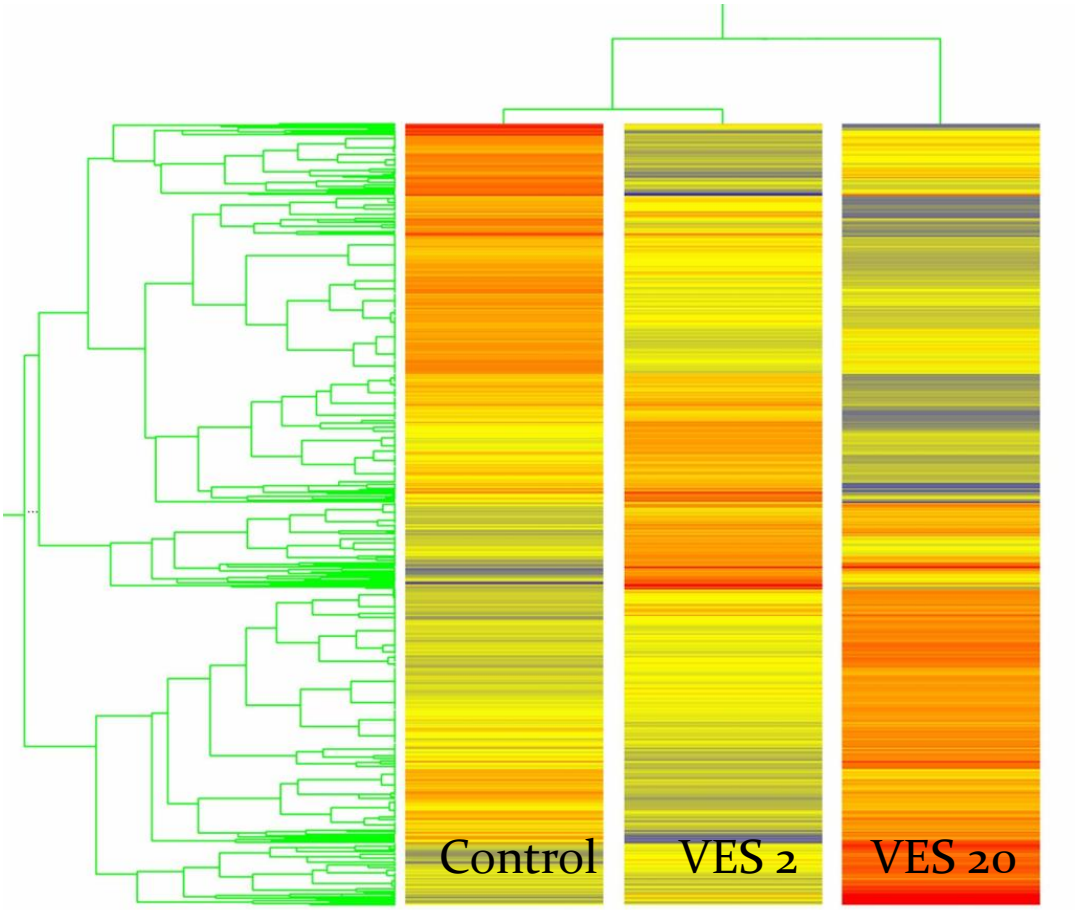
It also contains over 400 mg of two types of cancer fighting Chaga mushroom-fungi (one of which is wild, cold temperature, birch harvested Chaga).

Each of these species offers slightly different Beta 1,3-1,6 / polysaccharide structures, which activate many more types of immune cells than just simple beta glucans do.

Research has shown that inferior yeast beta glucans activated only the Natural Killer (NK) cells, whereas, our formula activates over 260 different classes of immune cells, including the NK cells, T-cells, Macrophages and many others.

- 100% Immune-Active Long Chain Beta-Polysaccharides & Glyco-Proteins
- Greater than 50% Soluble - Mushroom Derived - 1,3 - 1,6 Beta Glucans
- Greater than 20% HMW Branching Long Chain Heteropolysaccharides
- No Starch Content - Less Than 5% Alpha Glucans for Maximum Potency
- Combination of Water Soluble and Micronized Immune-Active Polysaccharides
- Micronization of Medicinal Mushroom Blend - 100% Particles < 40 microns – Highest possible bioavailable absorption
- Dried Yeast Fermentate (EpiCor)
- 100% Manufactured in USA - GMP - FDA - USDA Certified Organic
- Clinically Proven – Patent Pending - Guaranteed!

Gene Expression Profiles of 12,000 Genes in Vitamin E succinate Treated Cells



- **Ingredients in K9Medicinals Immune Support/Armor Up (AU) simultaneously enhance the levels of antioxidant enzymes by activating ROS-resistant Nrf2, (as well as dietary and body-made antioxidant chemicals) in order to optimally reduce oxidative stress and cell, DNA damaging inflammation.**

Research now shows that alpha-tocopheryl succinate (vitamin E succinate) is the most effective form of vitamin E (Prasad and Edwards-Prasad). This was confirmed by others in vitro and in vivo.

Over-expression of oncogenes C-myc and H-ras increases the risk of cancer. It was discovered that vitamin E succinate inhibits the expression of these two oncogenes (Prasad, Cohrs, and Sharma 1990).

Mutation in P38 gene increases the risk of cancer, whereas wild-type (normal type) P38 gene prevents the risk of cancer. Others have reported that that vitamin E succinate inhibits the expression mutated p38 gene, but enhances the expression of normal P38 gene.

Very low dose of vitamin E succinate, in proper combination with other micronutrients, which does not affect the growth of nerve cells in culture, produces marked alteration in gene expression. Changes in expression of gene profiles can be seen as early as 30 min after treatment (Prasad 2011).

J Am Coll Nutr. 2003 Apr;22(2):108-17.

Alpha-tocopheryl succinate, the most effective form of vitamin E for adjuvant cancer treatment

Prasad KN, Kumar B, Yan XD, Hanson AJ, Cole WC. Source: Center for Vitamins and Cancer Research, Department of Radiology, Campus Box C-278, University of Colorado Health Sciences Center, 4200 East 9th Avenue, Denver, CO 80262,

In this study (and a large number of other confirming studies) it was established that alpha-tocopheryl succinate (alpha-TS) was the most effective form of vitamin E in comparison to alpha-tocopherol, alpha-tocopheryl acetate and alpha-tocopheryl nicotinate in inducing differentiation, inhibition of proliferation and apoptosis in cancer cells, depending upon its clinical formulation, dose and isomer combination. .

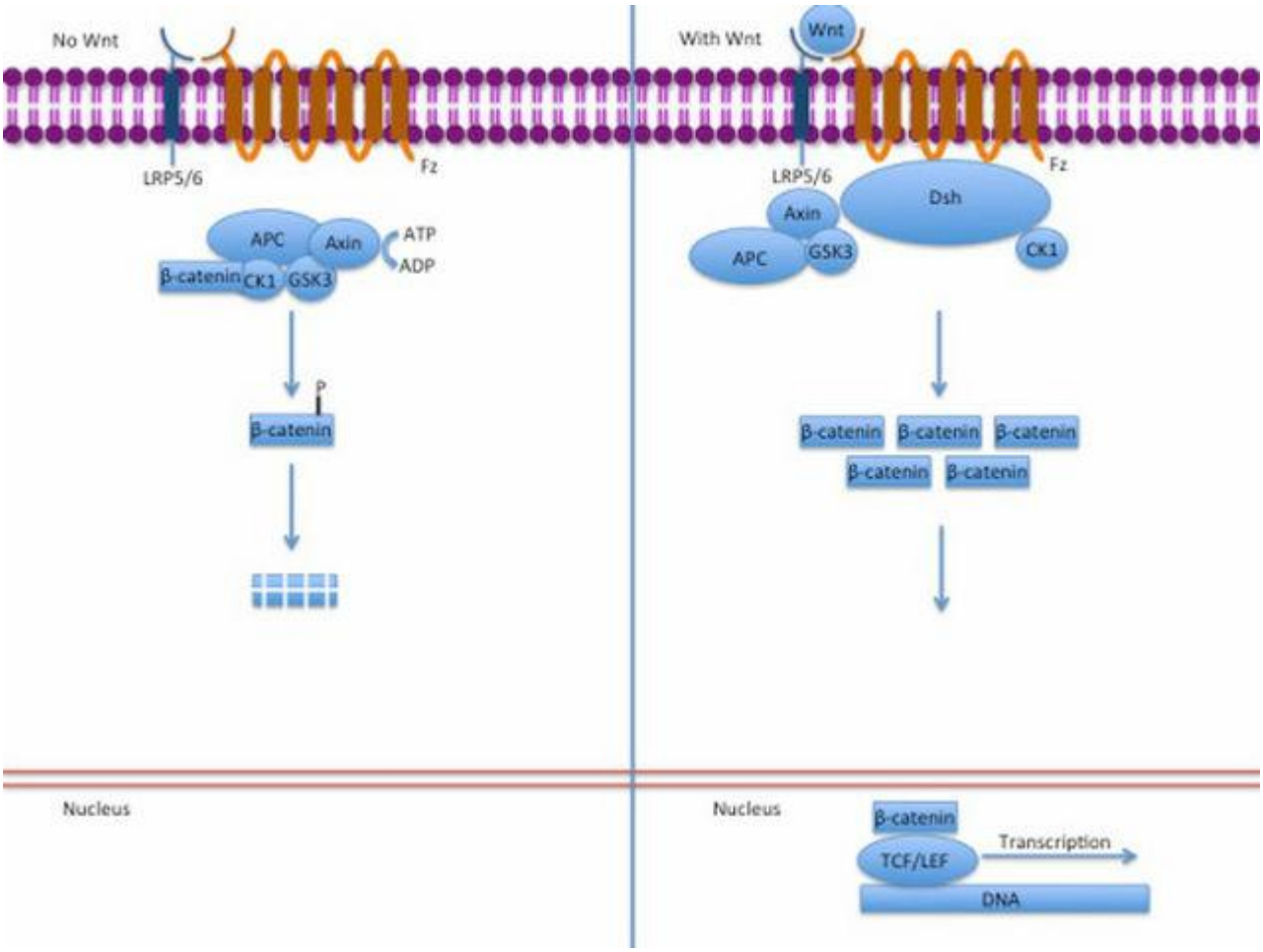
During the last two decades, several studies have confirmed this observation in animal and human cancer cells in culture and in vivo (animal model). The most exciting aspect of this alpha-TS effect is that it does not affect the proliferation of most normal cells. In spite of several studies published on the anti-cancer properties of alpha-TS, the value of this form of vitamin E has only now started to draw significant attention from researchers and clinicians.

Alpha-tocopheryl succinate formula treatment causes extensive alterations in gene expression; however, only some can be attributed to differentiation, inhibition of proliferation and apoptosis.

Alpha-TS also enhances the growth-inhibitory effect and biological response modifiers on tumor cells, while protecting normal cells against some of their adverse effects. Thus, alpha-TS in proper combination with dietary micronutrients can be useful as an adjunct to standard cancer therapy by increasing tumor response and possibly decreasing some of the toxicities to normal cells.

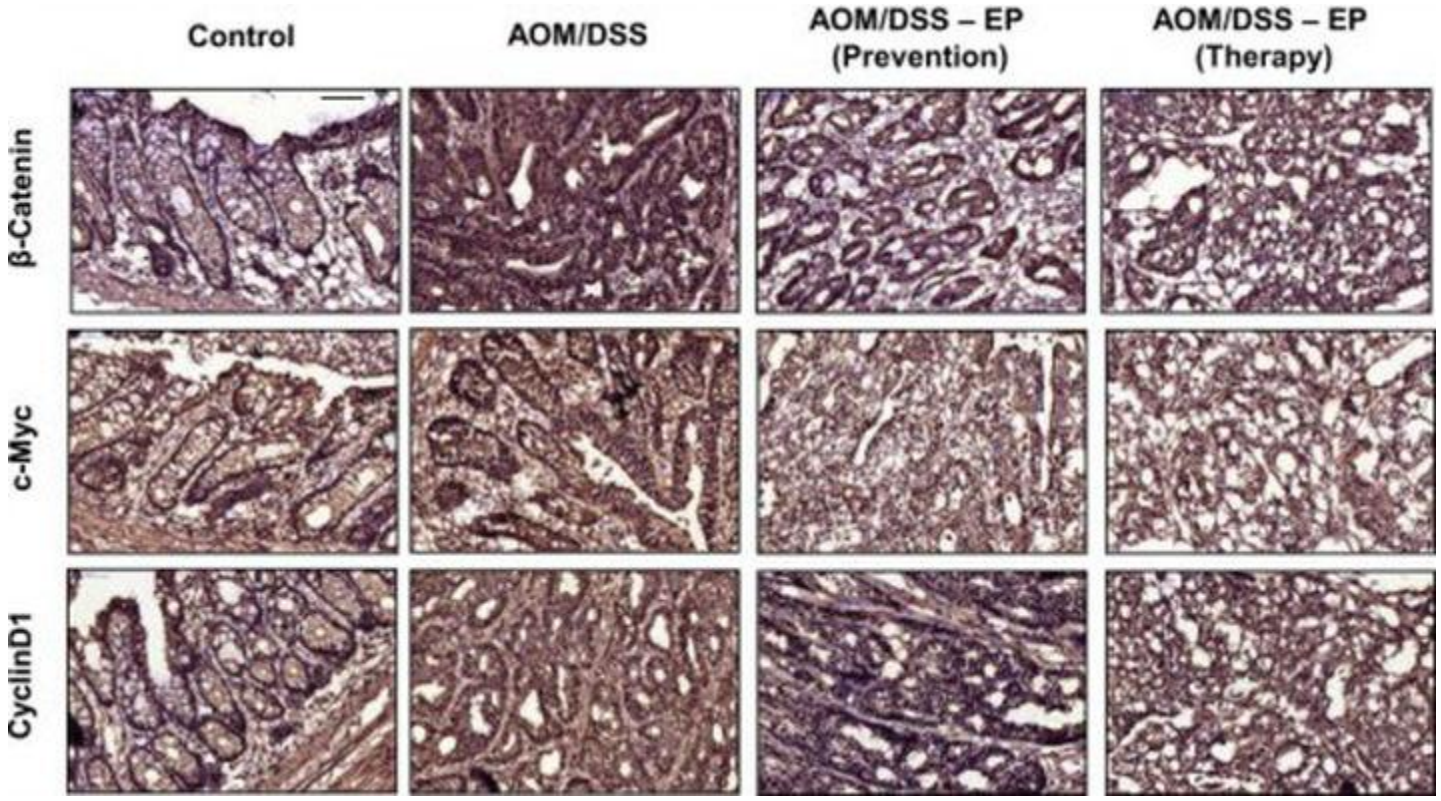
Ergosterol Peroxide from Chaga Mushroom Prevents Cancer

September 3, 2015



Ergosterol peroxide downregulates the β-catenin, preventing the Wnt signaling pathway. Image:Gpruett2 via Common Wikimedia

Recently, researchers have found an anti-cancerous activity in Chaga mushroom that inhibits the proliferation of human colorectal cancer cells. Therefore, researchers isolated several components from the Chaga mushroom and analyzed these components against the viability and apoptosis of colon cancer cells.



Light Microscopic image of the Immunohistochemistry for β-catenin, c-Myc, and cyclin D1 in AOM/DSS-treated mouse frozen colon tissue. Image: Kang et al. 2015