

Haelan 951 Nutraceutical Soy Product

Mechanisms of Action

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The following is a question and answer format with the most frequently asked questions about Haelan 951 nutraceutical product:

1. How does Haelan fight cancer cells and even eliminate them?

Haelan's identified mechanisms of action involving both the prevention and treatment of cancer are as follows:

- a) **Anti-angiogenesis** — Cancer cells, and healthy cells, constantly require the delivery of oxygen and nutrients to the cells by a flow of blood. When a normal cell, or a cancer cell, becomes deprived of its blood flow it will excrete enzymes that dissolve the nearby capillaries, causing the blood to flow to that blood deficient cell. This results in the formation of a vascular system that feeds the growth of the tumors. Without this blood supply to feed the tumors they cannot grow. The process of growing new blood vessels is called angiogenesis. The process of stopping the formation of new blood vessels is called anti-angiogenesis. Haelan promotes anti-angiogenesis. Haelan shuts off the enzymes cancer cells excrete that dissolves the capillary walls and thereby prevents the formation of the vascular system that would supply the blood to the tumors. When the blood supply is cut off to the tumors, they shrink and die because they have no food supply.
- b) **Restores Cell Differentiation** — Carcinogens damage DNA daily, which is usually repaired by the chromosomes within a fifteen minute time period. If the cellular damage interferes with the chromosomal DNA repair process the cell DNA damage does not get repaired. If the DNA damage is not repaired within two hours the damage will not be repaired since this time period has been scientifically established as the point at which no DNA is repaired. The isoflavones in Haelan have the ability to both protect the DNA from damage and repair DNA damage, which reverts the non-normal cells back to a normal differentiated cell. The isoflavones correct the spacing between damaged DNA strands, which either by itself or in combination with the possible repair to the chromosomal DNA repair mechanism, reverses the damage caused by carcinogens and restores non-normal (cancer) cells back to normal.
- c) **Induces Apoptosis** — All cells are programmed to die in accordance with their individual biological clock. This normal cell death is known as "apoptosis". Prior to a cell's death by "apoptosis" the cell creates an offspring, which inherits the same cellular characteristics as the mother cell that will die. Cancer cells, as a result of cellular damage to the biological

clock do not die. In view of this, when the cancer cell has an offspring, the offspring inherits the same characteristics as the mother, which includes the damage to the biological clock which prevents the offspring from dying at its programmed cell death date. The mother cell does not die after it has an offspring and neither does the offspring die after it has lived its programmed lifespan, which is the characteristic that distinguishes cancer cells from normal cells --- the cancer cells do not die. They continue to multiply and form tumors. The Haelan repairs cellular damage and by doing so restores the programmed cell death (apoptosis) and those cells that have outlived their programmed cell death then die. The restoration of the normal cell death is restored and these cancer cells die.

- d) Increases cyto-toxic effect of the NK killer cells — Each NK killer cell squirts a weak acid to kill cancer cells. Healthy cells increase the levels of zinc, copper and manganese super-oxide dismutase anti-oxidant enzymes at the cellular level, which protects the cells from damage. Cancer cells do not develop the super-oxide dismutase anti-oxidant enzymes at the cellular level and when the NK killer cells squirt their cytotoxic compound this will kill the cancer cell but will not hurt the healthy cells that are next to the cancer cells. An NK killer cell can kill only a few cancer cells if it has a weak cytotoxic compound to squirt. Similarly, if it is a strong cytotoxic compound that individual NK killer cell releases it may kill 60, 80 or even more than 100 cancer cells. Haelan increases the cytotoxic effect of the NK killer cells.
- e) Increase in Non-Specific Immunity (700%) — Macrophage, commonly referred to as the pac-man of the body, are large white blood cells that engulf and digest cellular debris, including cancer and other cells. The engulfment by a macrophage is known as a "phagocytosis". These are the big guns of the immune system that are summoned to help the body fight, kill and dispose of foreign proteins, including cancer cells. Not all macrophage are active in a healthy person. The definition of an "active" macrophage is one that either moves or has a phagocytosis. In healthy people, like rats, only 29% of the macrophage are active (move or have a phagocytosis) and when they become infected with parasites, have cancer, etc. the toxicity from live and dead parasites, cancer cells, and other bacterial or viral waste products causes a decrease in the immune system's active macrophage. In studies with Haelan, using malaria as a parasitic host, we found infected groups had a decrease in their active macrophage from 29% active to 20%. When Haelan was administered it doubled the number of active macrophage in infected groups and tripled the phagocytosis rate from .3 to over 1.0, which produced over 400 macrophage engulfments per 1,000 macrophage as compared to 60 engulfments per 1,000 macrophage in infected groups. This amounts to 700% increase in macrophage phagocytosis which can be extremely beneficial in both killing and eliminating cancer cells from the body.
- f) Slows down the Growth of Cancers — All cancer cells have a growth rate

that obviously affects the window of opportunity to treat the cancer patient. This time period of growth is often referred to as the "doubling rate". For example small cell lung cancer doubles every six days whereas non-small cell cancer cells double every 384 days. A fast growing cancer requires early and aggressive treatment because there is not a lot of time to waste if the patient is going to survive. Slow growing cancers have a much greater time period for treatment and dietary intervention. Haelan delays the onset of cancer because it has compounds in it that slow down the rate of the cancer cell's growth ("Mitosis"). In a study with one of the the phytic-acid compounds in Haelan (inisol hexaphosphate) we find that with breast cancer in rats it delayed the onset of cancers from 10 days to 25 days before tumors began forming in those who received the treatment. At that time 60 percent of the treatment group were cancer free and the tumors in the 40% that had the tumors were 1/25th the size of those in the untreated control group. When the time period was stretched to five weeks 80% in the treatment group were cancer free and the 20% with tumors had tumors that were 1/49th the size of the tumors in the untreated control group. Haelan's ability to slow down the growth rate of cancer cells gives more time for the anti-angiogenesis, apoptosis, immune stimulating and other anti-cancer mechanisms to eradicate any remaining cancer cells in a patient being treated.

- g) Produces Beneficial Metabolites - Haelan's fermentation process produces beneficial metabolites, like MTD-13, which is an anti-cancer compound produced in the processing. MTD-13 when isolated and tested in a meta-mouse model produced 88% tumor shrinkage in 40 days on human prostate cancer; 66% tumor shrinkage in 40 days on human liver cancer and induced apoptosis starting in two hours in leukemia cells.
- h) Increased Production of Inteférons and Interlukens and Improved Organ Functioning — In a clinical study with 303 healthy people tested over a four month period it was found that Haelan increased the production of inteférons, interlukens, increased the oxygen carrying content of the blood, balanced estradiol and sex hormones in men and women in addition to heart, lung, brain and other organs functional capabilities. These are all improvements in the body's ability to improve it's cancer fighting capabilities.
- i) Reduced Circulating Estrogen Levels and Balancing of Testosterone and Sex Hormones — Haelan, as a whole soy product will lower the circulating estrogen levels 30-40% lower than women who do not eat a good whole soy product. In addition, Haelan will decrease the level of 4- hydroxyestrogens and 16-hydroxyestrogens, which are the carcinogenic estrogens that can damage cellular DNA and cause breast, ovarian and other cancers. In addition, Haelan will increase the levels of the 2- hydroxyestrogens, which are the protective estrogen metabolites that are protective and do not

promote DNA damage. Studies have shown an 81% decrease in the "bad estrogens" for healthy women consuming the whole soy compounds in Haelan.

- j) Estrogen Receptor Blocking — The soy phytoestrogens in Haelan, because of their similar configuration to human estrogen, will block estrogen receptor sites in hormone driven cancers (breast, prostate and ovarian cancers), which prevents human estrogen from binding to the estrogen receptor site. Because the soy phytoestrogens are 1/100,000 times weaker than human estrogen, they do not cause cancer cells to speed up their growth rate like human estrogens do. Tamoxifen's benefits are derived from this estrogen receptor blocking mechanism. Research has shown that Tamoxifen was 26% effective, soy protein isolate was 36% effective and the two together were 62% effective in blocking estrogen receptor sites in breast tissue. The reason Tamoxifen and soy isoflavones, when used together, were more effective than either Tamoxifen or soy protein isolate used individually, is based on the fact that there are two estrogen receptor sites in breast tissue. These receptor sites are known as Alpha and Beta sites. The Tamoxifen has a strong affinity for the Alpha receptor site and the soy isoflavones have a stronger affinity for the Beta receptor site. Therefore, together there is better overall receptor site blocking of both Alpha and Beta receptor sites than is possible with either Tamoxifen or soy isoflavones by themselves.

2. Is Haelan effective without chemotherapy?

Haelan is effective without chemotherapy. Attached is the summary of two cases certified and accepted by the National Cancer Institute as sole therapy (Haelan) cured cancer patients. Please refer to attached article on Sherman Sanders and Patricia Saccoman by Dr. Vijaya Nair with over 360 technical references. These were sole therapy cured cases using Haelan by itself.

3. Percentage wise, how much does your chance of getting cancer free increase, if you add Haelan to chemotherapy?

This question would depend on the type of cancer being treated. The percentage of getting cancer free increases dramatically for the cancer patient dealing with cancers that are typically resistant to chemotherapy. An example of this would be liver, pancreatic, esophageal cancers and advanced metastatic breast cancers. Chemotherapy typically does not work on liver and pancreatic cancer patients and it is hard to find survivors that have lived only two years. Only five percent of esophageal cancer patients survive five years and there are over 100 clinical trials that show chemotherapy does not work for breast cancer.

The fact that all cancer cells revert to a survival mechanism, known as Nuclear Factor

— Kappa Beta, which is an apoptosis factor, within two hours of being hit with chemotherapy gives us insight into the tremendous improvement in one's chances to become cancer free by adding Haelan to the chemotherapy treatment. Research shows that the isoflavones in Haelan shut down the NF-KB survival mechanism 100% and the cancer cell kill is increased 8 to 10 times greater than the cancer cell kill achieved by chemotherapy by itself. Although the research was performed specifically with breast, prostate and pancreatic cancers, the results are reported to be consistent by all cancer patients regardless of the type of cancers. Conceivably, advanced liver and pancreatic cancer patients who typically have no chance of survival using chemotherapy by itself, may ultimately be cured when Haelan is used along with the chemotherapy. If leading doctors in the world consider chemotherapy to be the leading technology for treating advanced cancer cases, what would one say about a process that kills 800 to 1,000 percent more cancer cells than chemotherapy does? The odds of a patient becoming cancer free using Haelan and chemotherapy probably increases thousandsfold.

4. Why is the success rate (refer to question 3 above) a lot better?

Please refer to the answer to question numbers one, two and three above.

5. Are there studies done in Europe?

No, there are no clinical studies performed in Europe at this time.

6. Why is Haelan especially effective in treating liver cancer?

Haelan is especially effective in treating liver cancer because it improves liver function, knocks out carcinogens in the liver, and supports liver function. In addition, liver function includes breaking down consumed proteins into over 100,000 other proteins that helps the body to function and perform its normal cellular regeneration and repair of organs. The liver function in many liver cancer patients is severely impaired due to hepatitis, cirrhosis, and extensive cellular damage. Worms, bugs, parasites, toxins, poisons and other contaminants accumulated in the liver and are major problems facing the liver cancer patient. Haelan's anti-viral, anti-inflammatory, immune stimulating and superior liver detoxification qualities quickly and drastically improve the liver conditions in even the worst liver cancer patients. The liver regenerates and Haelan speeds liver cell regeneration while at the same time improving the liver function of those cells that are capable of normal functioning. Haelan speeds up wound healing and cellular repairs. In addition, Haelan's extensive processing breaks down the micronutrient contents in the product and puts them into the blood stream and tissues, which quickly gives not only the beneficial treatment response from Haelan's inherent qualities but in addition the body responds to Haelan's exceptional nutrition and begins producing increased immune response, more interferons, interleukins, improved blood chemistry and reduces the degree of protein calorie malnutrition that constantly plagues all cancer patients resulting in the death of 40-80% of them.

7. How does Haelan fight any kind of tumors and even eliminate them?

The answer to how Haelan fights tumors is presented in the answers to the earlier questions above.

With regards to the elimination of the tumors, this is how Haelan eliminates the tumors from the body. Tumors shrink and die when they are killed by any of the mechanisms discussed previously. The dead cancer cells are dissolved and cleaned out of the system by the macrophage, which as we recall is the "pac-man" of the body. Enzymes in the body that are derived from the diet as well as the chemicals in the macrophage dissolve the dead proteins in cancer-cells. This dissolved debris is channeled through the lymph system and filtered by the kidneys and liver for elimination from the body in urine and fecal matter.

8. Is Haelan also helpful with liver related diseases?

Haelan is beneficial in the treatment of hepatitis, cirrosis, and other liver diseases besides cancer. There has been work to show that Haelan does decrease viral loads from hepatitis, HIV and other viral conditions. A recent liver cancer patient with Hepatitis C reported having a viral load of 1,220,000 reduced to 600,000 after using Haelan for his liver cancer for a period of one month with continued downward movement of the viral load.

9. Is there a patent or trademark for Haelan?

Haelan initial production technology has had several patents issued with the latest one being only two years ago on the MTD-13, which is one of the anti-cancer compounds produced during the manufacturing process. There are other patents applied for as well as trade secrets that do not divulge important manufacturing technology required to produce the effectiveness of Haelan's products.

10. What makes Haelan better than all the other Soy based products offered all over the world?

Haelan's extensive processing makes it clearly far more effective than any other soy product produced in the world at this time. Most soy products in the United States are non-fermented soy products (over 450 of them) that do not give small biologically active peptides that are both bio-available as well as health promoting. Haelan requires over 25 pounds of soy to produce one eight ounce bottle, which is the ultimate concentrated soy product because it has eliminated all of the undesirable compounds in soy and enhanced the good compounds.

11. Are there any books or reports on Haelan by Dr. Morton Walker?

No, Dr. Morton Walker has written several articles on Haelan, which can be found in

the spiral bound book titled "Therapeutics of Soy Phytochemicals". Dr. Walker has lectured on Haelan several times, the last of which was at the Cancer Control Society's Doctor's Symposium on September 2, 2003. There is a DVD available with the full content of the lecture. Dr. Morton Walker clearly states that Haelan's fermented soy beverage is the best nutritional product in the world and should be used along with all cancer therapies.

If there are any questions, please do not hesitate to contact the author, Walter H. Wainright, President of Haelan Research Foundation (www.haelanresearch.net) at cell telephone U.S.A. Area 425-269-7798 or by e-mail, soygemsman@aol.com