

## **NEW SUPER-POTENT SOY EXTRACT**

### **3.5 Times Less Costly Than Previous Soy Products**

***We are posting this advance notice because there are cancer patients who may benefit from a unique soy extract that has just been developed. A lower potency version of this new soy extract is available for preventive purposes.***

In the January, 1998 issue of Life Extension Magazine, you can read about the development of a major breakthrough in the prevention of cancer, osteoporosis, and a host of other age-related diseases, via the health benefits of soy.

These benefits are well-documented in the scientific literature, but until now it has been difficult and expensive to obtain the amount of genistein and other soy isoflavones that scientists say may prevent age-related diseases.

During the last year, the Life Extension Foundation has been working with a major company to develop a soy extract providing a greater concentration of genistein and other isoflavones identified as having specific disease-prevention and treatment properties. The result of this painstaking research is a product called **MEGA SOY EXTRACT** that contains 41 times more genistein than the best soy extract sold previously.

### **FOR PREVENTION**

Healthy people need to take only a small amount of this new soy extract to obtain very high doses of genistein and other disease-preventing isoflavones. Most people will take one 135-mg capsule in the morning and another in the evening.

Here is a brief summary of the 135-mg version of **MEGA SOY EXTRACT**:

- Just two small 135-mg capsules provide the amount of genistein and other isoflavones found in 18 tablets of the Soy Power supplement.
- Two 135-mg capsules also provide the equivalent of 11 tablets of our current high-soy extract (sold under the name Ecogen).
- Just two 135-mg capsules provide the equivalent of 11 grams of Ecogen powder.
- **MEGA SOY EXTRACT** is 3.5 times less costly than other soy extracts.

According to peer-reviewed scientific studies, just two **MEGA SOY EXTRACT** capsules may provide enough soy isoflavones to:

1. Prevent cancer at multiple sites
2. Prevent gallstones
3. Protect kidney function
4. Stimulate bone formation
5. Lower cholesterol levels
6. Inhibit the oxidation of LDL cholesterol
7. Inhibit the development or progression of atherosclerosis

Based upon records of dietary soy consumption in Japan, where breast and prostate cancer are very low, the typical daily isoflavone intake for the Japanese has been estimated at 50 mg per person. The typical Western diet, on the other hand, has been estimated to provide only 2 to 3 mg a day of genistein. Our new soy extract, **MEGA SOY EXTRACT**, provides 110 mg of isoflavones, more than twice the amount in the typical Japanese diet.

Not only are certain cancer levels lower among those who consume soy, but menopausal symptoms and the incidence of osteoporosis also are reduced. One study shows that soy isoflavones promote an anabolic effect on bone density in post-



menopausal women by binding to the estrogen receptors in bone tissue.

### **Two 135-mg capsules of the new soy extract provide:**

Genistein and the genistein precursor isoform genistin	51.62 mg
Daidzein and the daidzein precursor isoform daidzin	49.95 mg
Glycitein and the glycitein precursor glycitin	9.39 mg
Total standardized isoflavones per two capsules	110 mg

Since isoflavones are water soluble and must be taken twice a day to maintain optimal blood levels, we did not put this dose into one large capsule. We suggest, instead, taking one capsule in the morning and one in the evening, preferably with food.

While one capsule twice a day is suggested for general disease prevention, women seeking to use MEGA SOY EXTRACT as an estrogen-replacement therapy should take two to three capsules twice a day.

### **FOR ADJUVANT CANCER TREATMENT**

#### **700-mg Soy Extract Capsules**

Soy extracts have become very popular in the last few years as an adjuvant (assisting) cancer therapy. In fact the scientific literature makes a strong case that all cancer patients should take soy supplements. Treating cancer, however, is not simple, and some cancer patients are less likely to benefit from soy, while others should not use it at all.

Cancer patients (and their doctors) may find the following information complicated, but they must understand it in order to use high concentrations of soy properly.

***Cancer patients undergoing radiation therapy should not take soy supplements one week before, during, and one week after being treated.*** Soy inhibits protein kinase C activity in cancer cells. Since cancer cells use protein kinase C for energy production, inhibiting this enzyme is usually desirable. Radiation therapy, on the other hand, depends on protein kinase C to help generate free radicals that kill cancer cells. It's possible, therefore, that large amounts of genistein in cancer cells could protect them against radiation-induced free-radical-mediated destruction.

### **EVIDENCE FOR SOY AS A CANCER THERAPY**

The Life Extension Foundation has obtained preliminary evidence about the types of cancer that soy extract may effectively combat and those it may not.

Here is a brief review of evidence showing that soy may be an effective adjuvant cancer therapy:

Genistein has produced significant inhibition of cell growth in many types of cancer. One study was conducted to examine the effects of genistein on cancer cell growth factors such as protein kinase C. Genistein suppresses protein kinase C activity and the subsequent growth-stimulating incorporation of thymidine into cancer cells. The scientists speculated that genistein has potential value in the prevention and treatment of some tumors in the body.

In other studies, genistein has shown anti-angiogenesis effects. Angiogenesis (new blood vessel growth) is a key step in tumor growth, invasion and metastasis. To date, a number of anti-angiogenic agents have been identified. In animal models, treatment with angiogenesis inhibitors has proven anti-tumor effects. Early clinical experience with angiogenic inhibitors indicates that optimal anti-angiogenic therapy will likely be based on the long-term administration of genistein to cancer patients as an adjunct to surgery and conventional chemotherapy. Genistein is one of the more potent nutritional anti-angiogenesis agents.

Genistein also has been shown to have cancer-cell adhesion inhibition properties, estrogen-receptor blocking properties and apoptosis-inducing (programmed cancer cell death inducing) effects.

An investigation into the effects of soy genistein on the growth and differentiation of human melanoma cells showed that genistein significantly inhibited cell growth. Some studies suggest that genistein also may enhance the benefits of certain chemotherapy regimens.

Yet another study showed that genistein inhibited the proliferation and expression of the in-vitro invasive capacity of prostate-cancer cells. Genistein proved to be toxic to a strand of prostate-cancer cells. The more aggressive the prostate cancer, the more genistein was effective in inhibiting both growth factors and the rate of cellular proliferation.

A study was conducted to determine if genistein can induce human-breast adenocarcinoma cell maturation and differentiation. Treating these cells with genistein resulted in growth inhibition accompanied by increased cell maturation. Optimal maturation was achieved after nine days of treatment with genistein. Both cancer cells with positive estrogen-receptors and those with negative estrogen-receptors differentiated in response to genistein, a crucial step in the induction of cancer cell apoptosis. Despite this study, we do not recommend that women with estrogen-receptor positive breast cancer use soy genistein because of the following evidence:

## EVIDENCE FOR A CAUTIOUS APPROACH

The Foundation has made a preliminary determination that **women with estrogen-receptor positive breast cancer should not take soy supplements**, including supplements with compounds such as genistein, until more is known about the effects of soy phytoestrogens on this type of cancer. We base this on evidence that the supplements could produce an estrogenic growth-effect in some forms of the cancer.

One study tested the effects of naturally occurring flavonoids on the proliferation of an estrogen-receptor positive human breast cancer cell line. Genistein inhibited cell proliferation, but this effect was **reversed** when estrogen was added. By contrast, the flavonoids hesperidin, naringenin and quercetin inhibited breast cancer cell proliferation even in the presence of high levels of estrogen, suggesting that the flavonoids apparently prevent such proliferation through different means.

Women with any type of breast cancer should test their serum estrogen levels to make sure that too much estrogen is not present if they are taking high doses of soy.

Estrogen can combine with the phytoestrogen genistein to cause some breast cancer cells to grow faster. Other studies show that genistein blocks certain types of estrogen-receptor sites, thus inhibiting the proliferation of these types of breast cancer cells. **Cancer patients who carry a mutated form of the tumor suppressor gene product p53 are far more likely to benefit from soy extract supplementation.** Only a pathology examination of the actual cancer cells can determine p53 status. An immunohistochemistry test can help to determine the p53 status of tumor cells. The following laboratory can perform this new test:

**IMPATH LABORATORIES**  
**1010 Third Avenue, Suite 203**  
**New York, NY 10021**  
**Phone: 1-800-447-5816**

If the test is positive, the patient has mutant p53 and is **more** likely to benefit from soy extracts. A negative test indicates the patient has functional p53 and is **less** likely to benefit from soy extracts.

The Foundation realizes that many cancer patients seeking to use soy supplements may find it difficult to have an immunohistochemistry test performed to ascertain p53 status. Nevertheless, since all cancer therapies produce individual responses, the Foundation reiterates its recommendation that **all cancer patients have monthly blood tumor-marker tests** to determine whether their therapies are working. If, for instance, tumor-markers were to continue to elevate 30 to 60 days after beginning supplementation with soy extract, **the patient must discontinue its use and seek another therapy immediately.** In order to find out if you have p53, please contact your oncologist and ask him to request this test from IMPATH. IMPATH is unable to provide information about the likelihood of p53 expression on an individual basis without samples and test requests from your treating oncologist.

The Foundation is working on the implementation of a more convenient blood test for p53.

We cannot overemphasize the importance of monthly blood testing for all cancer patients. Because every patient responds differently to both conventional and alternative cancer therapies, the results of blood tests provide critically important data to evaluate the effectiveness of these therapies. Some of the blood tests often used by doctors to evaluate different types of cancers are below.

## ADJUVANT CANCER TREATMENT PROTOCOL

The published literature suggests that cancer patients should take five 700-mg capsules, four times a day, of the new **MEGA SOY EXTRACT**. This dosage provides the optimal daily amount of approximately 2,800 mg of standardized genistein.

Because genistein is rapidly metabolized within the body, cancer patients need to take **MEGA SOY EXTRACT** in four divided doses spaced evenly throughout the day.

Soy genistein may inhibit an enzyme that breaks down cyclooxygenase-2 (Cox-2). Cox-2 causes excess production of prostaglandin E2 in the body. Prostaglandin E2 can promote cancer cell growth and induce abnormal blood-clotting. Cancer patients should take a baby aspirin with their heavy meal each day to inhibit Cox-2. Other Cox-2 inhibitors include a daily dose of fish oil providing 2,400 mg of EPA and 1,800 mg of DHA, 2,000 mg of ginger extract, and 6,000 mg a day of garlic.

Those considering soy extract supplementation should remember that it is not a cancer cure. It does have documented anti-cancer benefits that may work synergistically with other conventional and alternative cancer therapies.

Please refer to the Life Extension Foundation's revised Cancer Treatment Protocol before using **MEGA SOY EXTRACT** as an adjuvant cancer therapy.

### A COMPASSIONATE PRICE

The price of our new high-dose **MEGA SOY EXTRACT** is much lower per milligram than any other soy product on the market. Based on the published literature, cancer patients have to take large amounts of soy genistein in order to have a chance of duplicating the remarkable results seen in laboratory studies. Each capsule of high-dose **MEGA SOY EXTRACT** contains 700 mg of standardized genistein extract consisting of: Genistein and the genistein precursor isoform genistin 134 mg Daidzein and the daidzein precursor isoform daidzin 122 mg Glycitein and the glycitein precursor isoform glycitin 24 mg At the suggested dose of five capsules, four times a day, a cancer patient would consume 600 700-mg capsules every 30 days.

The Life Extension Buyers Club is selling these 700-mg **MEGA SOY EXTRACT** capsules at a very small mark-up over our actual cost in order to make it available to as many cancer patients as possible.

To order MEGA SOY EXTRACT click here to order online

Type of Cancer	Blood Test
Ovarian cancer	CA-125
Prostate cancer	PSA and Prolactin
Breast cancer	CA-27.29, CEA, Prolactin and Alkaline Phosphatase
Colon, rectum, liver, stomach and other organ cancers	CEA, GGTP
Pancreatic	CA-19.9, CEA, GGTP
Leukemia, Lymphoma, and Hodgkin's disease	CBC with differential, Immune Cell Differentiation, and Leukemia Profile
Lung cancer	CEA, CA-125, Alkaline phosphatase

### REMEMBER:

**Cancer patients must have monthly tumor marker tests to help determine if MEGA SOY EXTRACT is effective for their cancer. Cancers that do not have established blood tumor marker tests should be evaluated by MRI, CAT scans, or other imaging techniques that can assess whether or not tumor shrinkage is occurring.**

**\*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.**

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