

# New Research Refutes Soy's Hypothyroid Effect, Supports Cholesterol-Lowering Ability

by Kimberly Pryor

Soy is reported to aid in reducing menopause symptoms, reduce heart disease risk factors and help maintain bone density. Yet, despite soy's growing reputation as a powerful disease fighter, not everyone sings soy's praises.

Soy has been portrayed as both the hero and the villain. The anti-soy camp claims soy inhibits the thyroid and increases the risk of estrogen-dependent cancers. Those in the pro-soy camp point to research showing soy can reduce cholesterol, alleviate menopausal symptoms and lower blood pressure.

Those in the anti-soy camp cite the theory that soy inhibits thyroid function and increases breast cancer risk.

Recent reports and past evidence, however, refute that theory, indicating that soy is perhaps unjustly maligned.

Other recent studies have shown soy positively influences cholesterol metabolism and that it may benefit type 2 diabetics.

### Soy and Thyroid Function

In the winter of 2003, Stanford University researchers investigated whether a daily soy supplement could influence thyroid function. Many past studies investigating the relationship between soy and thyroid function were based on in vitro research, animal studies and older reports of goiter in infants who were fed soy formulas not fortified with iodine. Studies indicate that soy only inhibits thyroid function in iodine-deficient individuals.<sup>1</sup>

The current study reported on soy's effects in 64- to 83-year-old postmenopausal women who were not on hormone replacement therapy. The 38 subjects were given 90 mg of soy isoflavones daily or a placebo. Thyroid hormone levels were measured at baseline and after 90 and 180 days. At six months, the differences in thyroid hormones between the groups were statistically indistinguishable. According to the researchers, "These results indicate that in this group of healthy iodine-replete

*Studies indicate that soy does not inhibit thyroid function in individuals consuming adequate iodine and that, in humans, it does not cause the cell proliferation that can initiate cancer.*

subjects, soy isoflavones do not adversely affect thyroid function."<sup>2</sup>

### Breast Cancer

Because soy contains phytoestrogens, some individuals have expressed concern that soy intake can increase the risk of estrogen-dependent cancers, such as breast cancer. A new study, however, indicates that moderate intake of plant-derived phytoestrogens such as those found in soy does not increase breast cancer risk.

Researchers determined the isoflavone intake of 15,555 Dutch women, ages 49 to 70, from 1993 to 1997. These subjects came from a population known to have a low phytoestrogen intake, from 0.3 to 0.5 mg/day. During follow-up, 280 breast cancer cases were diagnosed. Upon examining the data, the researchers concluded that no connection existed between moderate isoflavone consumption and breast cancer development.<sup>2</sup>

An earlier study of 18 postmenopausal women also supports the conclusion that soy does not cause cell proliferation that can lead to cancer. Researchers asked subjects to consume one of three soy protein isolates for 93 days each, separated by 26-day "washouts" during which they consumed no soy protein isolate.

Two to four months before the study began and when the women were on the soy diet, researchers took vaginal smears

on all the subjects and optional endometrial biopsies on 14 of the women. Isoflavone consumption did not alter thyroid hormones, nor did soy significantly affect the subjects' vaginal cells. Endometrial biopsy results were not significantly different between baseline and when the subjects consumed the high-soy-isoflavone diet.

The researchers concluded, "These results, along with the negative endometrial biopsy results, suggest that it is unlikely that soy or isoflavones exert clinically important estrogenic effects on the vaginal epithelium or endometrium." This is in contrast, they stated, to the cell proliferation seen after low-dose estrogen replacement therapy and the effects on the vaginal epithelium and endometrium seen after using the breast cancer drug tamoxifen.

The researchers' previous study of premenopausal women yielded similar results. They concluded, "Certainly, from the standpoint of cardiovascular disease and perhaps osteoporosis, soy and isoflavones appear to be promising, and our findings suggest that soy consumption is unlikely to cause endometrial hyperplasia or cancer."<sup>4</sup>

### Cholesterol and Soy

A new, six-week study confirms that soy protein can help lower cholesterol. Researchers compared the consumption of soy protein to animal protein on the "bad" LDL cholesterol in 36 moderately hypercholesterolemic men and women. Soy protein consumption was associated with a larger LDL peak particle size relative to animal protein. Isoflavones on their own, however, did not affect LDL particle size.<sup>5</sup>

The researchers concluded, "Soy protein shifted LDL particle distribution to a less atherogenic [heart disease-causing] pattern and this effect is independent of soy's isoflavone component."

In another recent study, soy protein lowered cholesterol levels and improved

kidney function in type 2 diabetics. After soy consumption, significant reductions were seen in total cholesterol, triglycerides and LDL levels, and proteinuria (protein in the urine, considered a sign of severe renal disease) compared to animal consumption.<sup>6</sup>

**Conclusion**

Although the debate will likely rage on between the pro-soy and anti-soy camps, studies indicate that soy does not inhibit thyroid function in individuals consuming adequate iodine and that, in humans, it does not cause the cell proliferation that can initiate cancer.

Furthermore, studies indicate that soy

can lower cholesterol and that it may have a role to play in the prevention of osteoporosis and heart disease.

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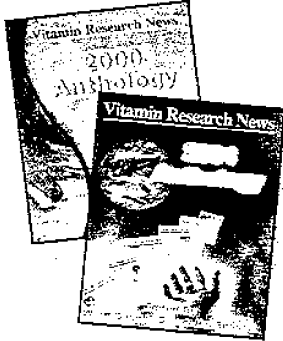
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