

Soy

In a recent combined analysis of several observational studies, there was a significant association between consumption of soy products and a reduced risk of prostate cancer development¹. However, at present, there is not enough clinical evidence to support the use of isoflavones for treatment of prostate cancer.

Soy products contain isoflavones, a plant compound that has weak female hormone (estrogen) activity and may decrease the risk of prostate cancer by reducing male hormone (testosterone) stimulation of the prostate. In addition, isoflavones may also protect against osteoporosis, and cardiovascular disease by lowering cholesterol and preventing damage to arteries.

Isoflavones are also suggested to play a role in preventing the progression of latent (inactive) cancer cells to active prostate cancer, as shown by the significantly lower number of prostate cancer deaths in areas where soy is a staple of the diet.

In laboratory and animal studies², genistein (the primary isoflavone in soy) and other isoflavones have been shown to inhibit cancer cell growth and division. The effects of soy supplementation on PSA levels, testosterone and other markers of prostate cancer in those diagnosed with the disease have been tested in several recent studies, yet the results do not consistently show a significant benefit. Thus, at present, there is not enough clinical evidence to support the use of genistein for treatment of prostate cancer.

Further research is needed to establish the effect of soy consumption on clinically relevant markers of disease progression and survival over time.

SOY PRODUCTS

Soymilk – also called soy beverage. Made from soybeans that have been soaked, ground and strained. A great alternative to cow's milk, opt for enriched brands that contain some fat, as isoflavones are fat-soluble.

Tofu – soybean curd available with varying moisture content and firmness – from soft to extra firm.

Edamame – young soybeans that are steamed. Found in the frozen food sections of many grocery stores.

Tempeh – fermented soybeans molded into a cake, an excellent meat alternative loaded with isoflavones and soy protein.

Soy meat substitutes – made from defatted soy flour, these products have a similar texture to ground meat, and can easily be used in place of meat in dishes such as chili and pasta sauce. Look for meatballs, veggie burgers and other products in the grocery store.

Soy protein powder – can be used similarly to skim milk powder by adding to soymilk, regular milk or in cooking.

Soy sauce and Tamari – little or no isoflavone content, just a lot of salt and MSG.

1. Yan L, Spitznagel EL. Meta-analysis of soy food and risk of prostate cancer in men. *Int J Cancer* 2005; 117:667-9

2. Goetzl MA, *et al.* Effects of soy phytoestrogens on the prostate. *Prostate Cancer Prostatic Diseases* 2007; epub: 1-8.

3. Li Z, *et al.* Feasibility of a low-fat/high-fiber diet intervention with soy supplementation in prostate cancer patients after prostatectomy. *Eur J Clin Nutr* 2007; epub: 1-11.

If you have never had soy before, start by including small amounts in your diet. Try vanilla, chocolate or strawberry-flavoured enriched soymilk and mix it with skim milk. Need a healthy snack? Why not have roasted soy nuts, they come in many flavours but are much lower in fat than regular nuts. Try substituting soy products in your meals, such as having a tofu stir fry instead of one with meat. Look around in the grocery store and test out different products, try an ethnic restaurant or read one of the many “soy cookbooks” available.

Food item	Serving size	Isoflavone content (mg)
Soy nuts, roasted, unsalted	¼ cup (60 ml)	75.0
Tempeh	¾ cup (175 ml)	53.0
Tofu, firm	¾ cup (175 ml)	41.6
Soy meat substitute (dry)	¼ cup (20 g)	26.3
Soymilk, enriched	1 cup (250 ml)	24.9
Edamame	½ cup (125 ml)	16.8
Soy protein isolate (powder)	1 tbsp (15 ml)	7.8
Soy cheese, cheddar	1.5 oz (50 g)	3.6
Soy sauce or tamari	1 tbsp (15 ml)	0.02 – 0.03

Source: U.S. Department of Agriculture, Agricultural Research Service. 2007. USDA-Iowa State University Database on the Isoflavone Content of Foods, Release 1.4 - 2007. Nutrient Data Laboratory Web site: <http://www.ars.usda.gov/ba/bhnrc/ndl>

When selecting soy products, be sure to read the label carefully. Just because the label says “soy” does not mean that isoflavones are guaranteed. Generally, the more processed the soy product (such as tofu hot dogs and soy cheese), the lower the isoflavone content. Fat and protein can also vary between brands, so choose wisely to get the maximum benefit from soy without adding to your waistline.

Remember, soy products are also an excellent source of high-quality protein and a great lower-fat alternative to animal sources such as meat. While some groups suggest soy supplementation at 40 grams per day, one serving of most soy foods provides a similar amount of isoflavones, and at a lower price than supplements. Until further studies are done, increasing your soy protein and isoflavone intake through food is best. Aim for one or more servings of soy each day.

The Prostate Education & Research Centre



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