Soy Protein:
Misconceptions and Benefits for Men

Gene Bruno, MS, MHS, RH(AHG)

Soy protein

Nutrition is a science, not a religion. Nevertheless, when it comes to the use of soy protein by men, it seems that some individuals and organizations are spreading misinformation based upon a belief, not upon facts (although sometimes those beliefs are misrepresented to be science). Specifically, I'm referring to allegations that soy protein consumption by men will reduce testosterone levels, increase estrogen levels and result in feminizing characteristics. This belief is absolutely incorrect. In fact, soy protein offers a number of benefits for men. This article will address the misconceptions and benefits regarding the use of soy protein by men.

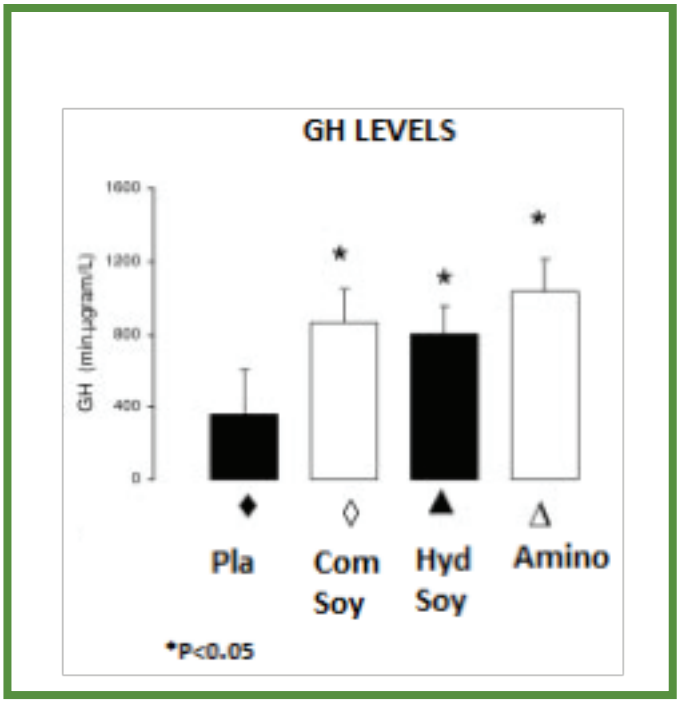
Soy protein does not decrease testosterone levels

Soy protein naturally contains isoflavones that are sometimes classified as phytoestrogens (i.e. plant estrogens), which has raised some concern that this may have an adverse effect upon testosterone levels in men. Of course the proper way to address this concern is to conduct human research in men to see if, indeed, there is any basis to the concern. In fact, in English alone there have been 15 placebo-controlled studies and 32

reports involving 36 treatment groups investigating this very issue. A group of researchers examined all of these studies and reports and published the results in a meta-analysis[1] (i.e. a scientific method for assessing the results of similar studies and looking for patterns). The results of the meta-analysis found that there was *no significant effect* of soy protein or isoflavone intake on testosterone, SHBG (sex hormone binding globulin), free testosterone, or free androgen index regardless of statistical model. Bottom line: soy protein does not decrease testosterone levels.

Soy protein does not increase estrogen levels or promote feminizing characteristics

The isoflavone/phytoestrogen content of soy also caused concern about increasing estrogen levels in men and the potential to initiate feminizing characteristics. Research was also conducted to address this concern; in fact there were nine studies that examined this. These nine studies were included in a published critical examination of the research.[2] The results were that, there is essentially *no evidence* that isoflavone exposure effects circulating estrogen levels in men, nor does it have any effect on sperm or semen parameters. In short, the research indicates that soy isoflavones do not exert feminizing effects on men at intake levels equal to and even considerably higher than are typical for Asian males.



Soy protein increases growth hormone levels

While soy protein does not have the negative effects of which it was erroneously accused, it does have some positive ef-


Soybeans

fects, including growth hormone release. Growth hormone (GH) is an important regulator of growth and body composition, and the amino acids arginine and lysine have been shown to promote GH release. Since both of these amino acids are amply present in soy protein, researchers decided to investigate the effects of hydrolyzed soy protein, complete soy protein, an amino acid combination and a placebo on GH release in eight healthy women in a randomized, single-blind crossover design.[3] The results were that the soy proteins as well as the amino acids significantly increased GH levels compared to placebo.

Soy protein and weight loss

A total of 83 obese men and women completed a study[4] with three treatment groups, including two groups following a high-soy-protein, low-fat diet. While all groups lost weight, those following the high-soy-protein diet lost the most weight (about 20 pounds). Furthermore, the soy protein groups lost more body fat while preserving lean muscle. Another study[5] compared the effects of diets with soy-protein and casein (a milk protein) on weight loss in obese adults. The results were that both groups lost weight, with no advantage in the casein group over the soy group. This is significant because casein was previously thought by some to be more effective than soy protein for this purpose. Now we know otherwise.

Soy protein reduces risk of prostate cancer

A meta-analysis[6] of published research examined the effects of soy and soy protein intake on the risk of different types of cancers, including prostate cancer. The results were that soy consumption was significantly associated with a reduced risk of prostate cancer. Soy's mechanism for reducing risk was thought to include decreasing the activation of procarcinogens to carcinogens and regulating genes that underlie the initiation, promotion and/or progression of tumors.

Since men with prostate cancer who have had a prostatectomy are still at risk of metastasis (i.e. spreading of cancer to different organs/tissues), researchers conducted a study[7] in which those men followed either a low-fat diet supplemented with soy protein, or a USDA recommended diet. The results demonstrated inhibition of cancer cell growth from patients in the soy protein group after six months.

Conclusion

As it turns out, concern about the harmful effects of soy protein use in men is much ado about nothing. In fact, those who have scared men away from the use of soy protein have done a significant disservice to men who might otherwise have benefited from the many health benefits of this valuable dietary supplement. ■

References

1. Hamilton-Reeves JM, Vazquez G, Duval SJ, Phipps WR, Kurzer MS, Messina MJ. "Clinical studies show no effects of soy protein or isoflavones on reproductive hormones in men: results of a meta-analysis." *Fertil Steril.* 2010 Aug;94(3):997–1007.
2. Messina M. "Soybean isoflavone exposure does not have feminizing effects on men: a critical examination of the clinical evidence." *Fertil Steril.* 2010 May 1;93(7):2095–104.
3. van Vught AJAH, et al. "Effects of Oral Ingestion of Amino Acids and Proteins on the Somatotropic Axis." 2008. *J Clin Endocrinol Metab.* 2008;93:584–590.
4. Deibert P, et al. "Weight loss without losing muscle mass in pre-obese and obese subjects induced by a high-soy-protein diet." *International Journal of Obesity.* 2004;28:1349–52.
5. Anderson JW, et al. "Soy compared to casein meal replacement shakes with energy-restricted diets for obese women: randomized controlled trial." *Metabolism Clinical and Experimental.* 2007;56:280–88.
6. Badger TM, Ronis MJ, Simmen RC, Simmen FA. "Soy protein isolate and protection against cancer." *J Am Coll Nutr.* 2005 Apr;24(2):146S–9S.
7. Li Z, Aronson WJ, Arteaga JR, et al. "Feasibility of a low-fat/high-fiber diet intervention with soy supplementation in prostate cancer patients after prostatectomy." *Eur J Clin Nutr.* 2008 Apr;62(4):526–36.

Gene Bruno is the Dean of Academics for Huntington College of Health Sciences. With graduate degrees in both nutrition and herbal medicine, Gene is a 32 year veteran of the Dietary Supplement industry. He has educated and trained natural product retailers and health care professionals, has researched and formulated natural products for dozens of dietary supplement companies, and has written articles on nutrition, herbal medicine, nutraceuticals and integrative health issues for trade, consumer magazines, and peer-reviewed publications.