

# The effects of soy and whey protein supplementation on acute hormonal responses to resistance exercise in men

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With protein supplement use by athletes on the rise, a group of researchers expanded upon prior research examining the effects of soy and whey protein supplementation on testosterone, sex hormone binding globulin (SHBG), and cortisol responses to an acute bout of resistance exercise. Their study, "The Effects of Soy and Whey Protein Supplementation on Acute Hormonal Responses to Resistance Exercise in Men" is the 2014 Ragus Award Winner as Best Article from the *Journal of the American College of Nutrition*, the official publication of the American College of Nutrition.

Many men who conduct [resistance training](#) are concerned regarding the production of estrogen with the consumption of soy protein when training for muscle strength and size. Thus, the purpose of this investigation was to examine the effects of soy and whey [protein supplementation](#) on sex hormones following an acute bout of heavy [resistance exercise](#) in resistance-trained men.

10 resistance-trained men in their early 20s were divided into 3 supplementation treatment groups: (1) [whey protein](#) isolate, (2) soy protein isolate, or (3) a maltodextrin placebo control. No other supplements were allowed. Vegetarians, vegans, or subjects who consumed high-protein diets were excluded from the study. For 14 days, participants would ingest 20g of their assigned supplement at the same time each morning. The participants would then perform 6 sets of heavy

resistance squats at 10 reps each using 80 percent of their maximum lifting weight.

"Our main findings demonstrate that 14 days of supplementation with [soy protein](#) does appear to partially blunt serum testosterone. In addition, whey influences the response of cortisol following an acute bout of resistance exercise by blunting its increase during recovery. Protein supplementation alters the physiological responses to a commonly used exercise modality with some differences due to the type of protein utilized," wrote the researchers.

**More information:** "The Effects of Soy and Whey Protein Supplementation on Acute Hormonal Responses to Resistance Exercise in Men." William J. Kraemer, et al. *Journal of the American College of Nutrition* Volume 32, Issue 1, 2013 [DOI: 10.1080/07315724.2013.770648](#)

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