

Study reaffirms soy-dairy protein blend increases muscle mass

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A new study published online in the *Journal of Applied Physiology* shows additional benefits of consuming a blend of soy and dairy proteins after resistance exercise for building muscle mass. Researchers from the University of Texas Medical Branch found that using a protein blend of soy, casein and whey post-workout prolongs the delivery of select amino acids to the muscle for an hour longer than using whey alone. It also shows a prolonged increase in amino acid net balance across the leg muscle during early post-exercise recovery, suggesting prolonged muscle building.

The study was conducted by researchers from UTMB in collaboration with DuPont Nutrition and Health. "This study sheds new light on how unique combinations of proteins, as opposed to single protein sources, are important for muscle recovery following exercise and help extend amino acid availability, further promoting muscle growth," said Blake B. Rasmussen, chairman of UTMB's Department of Nutrition and Metabolism and lead researcher of the study.

This new research, using state-of-the-art methodology, builds on an earlier publication reporting that a soy-dairy blend extends muscle protein synthesis when compared to whey alone, as only the blended protein kept synthesis rates elevated three to five hours after exercise. Together, these studies indicate that the use of soy-dairy blends can be an effective strategy for active individuals seeking products to support muscle health.

"Because of the increased demand for high-quality protein, this study provides critical insight for the food industry as a whole, and the sports nutrition market in particular," said Greg Paul, global marketing director for DuPont Nutrition and Health. "With more and more consumers recognizing the importance of protein for their overall health and well-being, the results of this study have particular relevance to a large segment of the population, from the serious sports and fitness enthusiast to the mainstream consumer."

The double-blind, randomized clinical trial included 16 healthy subjects, ages 19 to 30, to assess if consumption of a blend of proteins with different digestion rates would prolong amino acid availability and lead to increases in [muscle protein synthesis](#) after exercise. The protein beverages provided to study subjects consisted of a soy-dairy blend (25 percent isolated DuPont Danisco SUPRO soy protein, 50 percent caseinate, 25 percent [whey protein](#) isolate) or a single protein source (whey protein isolate). Muscle biopsies were taken at baseline and up to five hours after [resistance exercise](#). The protein sources were ingested one hour after exercise in both groups.

The study demonstrates that consuming a soy-dairy blend leads to a steady rise in [amino acids](#), the building blocks of muscle. The data showed that the soy-dairy blend yields an increase in select amino acid delivery for about an hour longer than the use of whey protein alone. The blend also sustained a greater positive net amino acid balance than whey, suggesting there is less [muscle](#) protein breakdown during the time period shortly after consumption of a blended [protein](#) product.

Further research is ongoing to identify the long-term effect on [muscle mass](#) and strength.

Provided by University of Texas Medical Branch at Galveston

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