

Professor conducting study to determine whether supplements help muscles grow

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Nutritional supplements are often associated with athletes and body builders, but a University of Kansas professor is conducting a research project to determine whether they are in fact, effective and if they might be able to help older individuals with muscle loss.

Trent Herda, assistant professor of health, sport and [exercise](#) science, is principal investigator of a study to determine whether whey protein and leucine have a measurable effect on anabolism, or [muscle](#) growth, in muscles in [resistance training](#).

“For a long time there’s been the thought that feeding the muscle protein after a workout has been a good thing,” Herda said. “There hasn’t necessarily been data to back it up, though. We’re testing that to find out for sure.”

Supplements and their producers are notorious for making claims that the product will improve muscle growth whether or not it has been scientifically verified. In the past several years the Food and Drug Administration has increased enforcement on policies regarding the validity of such claims.

Herda and his team are conducting a double-blind, fully audited study in which healthy, college age males take part in 45 minutes of resistance training. Some of the subjects are given whey [protein](#) and leucine while the rest are given a placebo, and none are informed which they are receiving.

After the participants perform leg presses and leg extensions and receive the supplement or placebo, researchers take a biopsy to collect muscle tissue from the quadriceps. The goal is to determine both if the supplements improve [muscle growth](#) and the pathways by which the substance reaches muscle tissue.

“The quad is a big, easy muscle group to put a stress on and easy to measure these pathways through because we can get a good, reliable tissue sample,” Herda said.

Herda, director of KU’s Biomechanics Laboratory, has performed similar studies into the anabolic effectiveness of other supplements, such as creatine. His research looks both at the effectiveness of such supplements for athletes and individuals throughout the lifespan.

The first step in the study, funded by the General Nutrition Corporation, is to determine the effectiveness. If it proves effective, Herda said he hopes to move on to testing with older adults. Ideally, sarcopenic older individuals — people who have experienced enough [muscle loss](#) to lose mobility and function — would be next to see benefits from the study.

“If it works in younger folks, the next logical step is to move on to older individuals,” Herda said. “We could possibly help these individuals with simple things in life like getting in and out of a car, getting groceries that they have difficulty with because of loss of muscle mass.”

Provided by University of Kansas

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