TITLE OF STUDY: Influence of pea protein supplementation on recovery from exercise-induced muscle damage

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What is the purpose of this research?
Increases in muscle strength and size after weight training are greatest when protein is consumed right after the exercise bout is completed. The most effective type of protein is still being debated, but most supplement products use whey protein from milk because of the high amount of branched chain amino acids that exhausted muscles prefer to use. Whey protein supplements taken after weight lifting may also enhance recovery and lessen muscle damage and soreness, but more research in this area is needed. NUTRALYS® pea protein (ROQUETTE, Lestrem, France) is a vegetable protein isolate from the yellow pea that contains the essential branched chain amino acids, albeit at lower levels (22% less) compared to whey protein supplements. However, the amount of branched chain acids in pea protein may be sufficient to enhance recovery and lessen muscle damage and soreness when compared to whey protein, and would provide individuals who weight train with an alternative protein source. The purpose of this study is to determine if supplementation with NUTRALYS pea protein isolate compared to whey protein and apple juice (carbohydrate, non-protein control) before, during, and after a 90-minute bout of eccentric exercise can attenuate exercise-induced muscle damage, inflammation, and delayed onset of muscle soreness (DOMS), and speed recovery of muscle function.

Why am I being invited to take part in this research?
You will be one of 100 men and women, ages 18 to 55 years, recruited into this study at the ASU-NCRC Human Performance Lab in Kannapolis, NC. You are invited to take part in this research if you are a healthy, non-obese male or female that is not lifting weights more than three times per week.

What will I be asked to do?
The research procedures will be conducted at the Human Performance Laboratory (Room 1201, Plants for Human Health Institute Building, 600 Laureate Way), operated by Appalachian State University at the North Carolina Research Campus (NCRC) in Kannapolis, NC. You will need to come here for orientation/baseline testing just before the study begins, and then 5 other lab visits during a one-week period on a Monday, with short morning visits Tuesday through Friday. At each of the 5 lab visits, you will come to the lab at 7:00 am (rested, overnight fasted), and provide a blood sample. The Monday session will include 4 muscle performance tests and a 90-minute eccentric exercise bout, and take about 2.5 hours (7:00 to 9:30 am). The Tuesday through Friday sessions will take about 30-45 minutes each, and you will provide a blood sample and take 4 muscle performance tests. The total amount of time you will be asked to volunteer for this study is about 7 hours at the Human Performance Laboratory.

Will I be paid for taking part in the research?
We will pay you $500 for the time you volunteer while being in this study.

How do I sign up for the study or obtain more information?
Please send an email message to ASU-NCRC@appstate.edu, or call 704-250-5352.