Effects of a Combined Protein and Antioxidant Supplement on Muscle Recovery and Isokinetic Function in College-aged Males

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ABSTRACT

Exercise-induced muscle damage following bouts of eccentric and strenuous exercise is known induce muscle soreness and lead to decrements in athletic performance. Exhaustive exercise can damage contractile proteins, resulting in muscle soreness and impaired muscle function. It has been well documented that protein supplementation during the recovery period aids in the repair of these contractile proteins, which subsequently improves athletic performance. Strenuous exercise increases oxygen consumption, thus resulting in a homeostatic imbalance. This is also accompanied by the generation free radicals, which lead to increases in the production of reactive oxygen species. Past research has indicated that antioxidant supplementation reduces oxidative stress and decreases subjective muscular discomfort. Torque production and physiological biomarkers of muscle soreness have been examined as methods to quantify muscle soreness and function. Largely, previous research has suggested that protein and antioxidant supplementation independently can accelerate muscle recovery and reduce muscle soreness following fatiguing eccentric