
Abstract
The aim of this study was to examine the effects of Eleutherococcus senticosus (ES) supplementation on endurance capacity, cardiovascular functions and metabolism of recreationally trained males for 8 weeks. Nine recreationally trained males in college consumed 800 mg/d of ES or starch placebo (P) for 8 weeks according to a double-blind, randomized, placebo controlled and crossover design with a washout period of 4 weeks between the cycling trials. Subjects cycled at 75% V' O2 peak until exhaustion. The examined physiological variables included endurance time, maximal heart rate during exhaustion exercise, V' O2, rating of perceived exertion and respiratory exchange ratio. The biochemical variables including the plasma free fatty acid (FFA) and glucose were measured at rest, 15 min, 30 min and exhaustion. The major finding of this study was the V' O2 peak of the subjects elevated 12% ($P < 0.05$), endurance time improved 23% ($P < 0.05$) and the highest heart rate increased 4% ($P < 0.05$) significantly. The second finding was at 30 min of 75% V' O2 peak cycling, the production of plasma FFA was increased and the glucose level was decreased both significantly ($P < 0.05$) over 8-week ES supplementation. This is the first well-conducted study that shows that 8-week ES supplementation enhances endurance capacity, elevates cardiovascular functions and alters the metabolism for sparing glycogen in recreationally trained males.