

American ginseng supplementation attenuates creatine kinase level induced by submaximal exercise in human beings

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摘要

Abstract

AIM: To investigate whether American ginseng (AG, *Panax quinquefolium* [*Panax quinquefolius*]) supplementation was able to improve endurance exercise performance. **METHODS:** Thirteen physically active male college students were divided into two groups (AG or placebo) and received supplementation for 4 weeks, before the exhaustive running exercise. Treadmill speed was increased to a pace equivalent to 80% VO₂max of the subject. A 4-week washout period followed before the subjects crossed over and received the alternate supplement for the next 4 weeks. They then completed a second exhaustive running exercise. The physiological variables that were examined included time to exhaustion and oxygen pulse. Moreover, the plasma creatine kinase (CK) and lactate were measured prior to the exercise, at 15 and 30 minutes during exercise, immediately after exercise, and 20, 40, 60, and 120 minutes after exercise. **RESULTS:** The major finding of this investigation was that the production plasma CK during the exercise significantly decreased for group AG than for group P. The secondary physiological finding was that 80% VO₂max running was not improved over a 4-week AG supplementation regimen. **CONCLUSION:** Supplementation with AG for 4 weeks prior to an exhaustive aerobic treadmill running reduced the leakage of CK during exercise, but did not enhance aerobic work capacity. The reduction of plasma CK may be due to the fact that AG is effective for the decrease of skeletal muscle cell membrane damage, induced by exercise during the high-intensity treadmill run.