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Effects of chronic Rhodiola Rosea supplementation on sport performance and antioxidant capacity in trained male: preliminary results.

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Abstract

AIM: Rhodiola Rosea, is an adaptogen plant which has been reported to promote fatty acids utilisation, to ameliorate antioxidant function, and to improve body resistance to physical strenuous efforts. The purpose of the present study was to investigate the effects on physical performance as well as on the redox status of a chronic **Rhodiola Rosea** supplementation in a group of competitive athletes during endurance exercise.

METHODS: Following a chronic supplementation with **Rhodiola Rosea** for 4 weeks, 14 trained male athletes underwent a cardio-pulmonary exhaustion test and blood samples to evaluate their antioxidant status and other biochemical parameters. These data were compared with those coming from the same athletes after an intake of placebo.

RESULTS: The evaluation of physical performance parameters showed that HR Max, Borg Scale level, VO(2) max and duration of the test were essentially unaffected by **Rhodiola Rosea** assumption. On the contrary, **Rhodiola Rosea** intake reduced, in a statistically significant manner, plasma free fatty acids levels. No effect on blood glucose was found. Blood antioxidant status and inflammatory parameters resulted unaffected by **Rhodiola Rosea** supplementation. Blood lactate and plasma creatine kinase levels were found significantly lower ($P < 0.05$) in **Rhodiola Rosea** treated subjects when compared to the placebo treated group.

CONCLUSION: Chronic **Rhodiola Rosea** supplementation is able to reduce both lactate levels and parameters of skeletal muscle damage after an exhaustive exercise session. Moreover this supplementation seems to ameliorate fatty acid consumption. Taken together those observation confirm that **Rhodiola Rosea** may increase the adaptogen ability to physical exercise.

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