



Rhodiola 150

HERBAL SUPPLEMENT

Adaptogenic herbal support*

- Helps the body respond to occasional mental and physical stress*
- Promotes energy metabolism and physical working capacity*
- Promotes antioxidant defense*
- Provides 300 mg of rhodiola root extract per day

Rhodiola 150 provides rhodiola, an adaptogenic herb used in traditional medicine.^{1*} Rhodiola provides support for occasional mental and physical stress by promoting healthy stress response and through moderation of certain stress hormones.^{1*} By promoting neurotransmitter activity, rhodiola also supports cognitive function, including mental focus and stamina.^{1*} Recent clinical trials have demonstrated that daily supplementation with 100-200 mg of rhodiola extract significantly supports mental and physical well-being during occasional stress, promotes exercise capacity, regulates work-related fatigue, and provides antioxidant protection.^{2-4*}



Supplement Facts

Serving Size 2 Capsules
Servings per Container 30

Each Serving Contains

Rhodiola (<i>Rhodiola rosea</i>) Root Std. Extract (3% Rosavins, 1% Salidroside)	300 mg	†
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† Daily Value not established

Other ingredients: Hypromellose, cellulose

Recommended Adult Dose: Take two capsules daily or as recommended by your healthcare practitioner. Not to be taken immediately before bedtime.

Product Size: 60 Vegetable Capsules **Product Code:** 07641



REFERENCES

1. Hung, SK, Perry, R, Ernst, E. Phytomedicine. 2011; 18: 235-244.
2. Spasov, AA, Wikman, GK, Mandrikov, VB, Mironova, A, Neumoin, VV. Phytomedicine, 2000; 7(2): 85-89.
3. Darbinyan, V, Kteyan, A, Panossian, A, Gabrielian, E, Wikman, G, Wagner, H. Phytomedicine. 2000; 7(5): 365-371.
4. Skarpanska-Stejnborn, A, Pilaczynska-Szczesniak, L, Basta, P, Deskur-Smielecka, E. International Journal of Sport Nutrition and Exercise Metabolism. 2009; 19: 186-199.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

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Rhodiola 150 HERBAL SUPPLEMENT

Scientific Rationale:

Rhodiola, a plant used in traditional medicine, is found at high altitudes in the Arctic, Asia and Europe.¹ By regulating the activity of enzymes that degrade neurotransmitters and by prolonging neurotransmitter activity in the brain, rhodiola promotes bio-electrical brain activity.^{1} This supports cognitive function, including attention, memory and learning abilities.^{1*} As an adaptogen, rhodiola helps to promote healthy stress response and moderates mediators of stress response, including the stress hormone cortisol and neuropeptide Y, which plays a role in energy balance, memory, learning and mood.^{1,2*} Rhodiola also provides antioxidants to promote optimal health.^{3*}*

In a randomized, double-blind, placebo-controlled trial, rhodiola intake significantly improved mental function among male students during an examination.^{4} Participants were randomized to consume either placebo or rhodiola tablets (containing a total of 100 mg of rhodiola) daily for 20 days.⁴ Efficacy tests, which were conducted at baseline and at the end of the study period, analyzed self-rated fatigue (forms of fatigue, sleeping patterns, mental discomfort, mood instability), self-rated general well-being (general state, degree of activity, mood and motivation to work), psycho-motor function (spiral maze), and physical fitness (physical working capacity measured by cycling test PWC-170 and the subsequent change in pulse rate).⁴ When compared to placebo values, rhodiola supplementation significantly improved self-rated fatigue, self-rated general well-being, and psychomotor function.^{4*} Specifically, the accuracy of movement in the spiral maze test (when compared to the speed of movement) significantly improved by 50% when compared to the placebo.^{4*} Additionally, participants' pulse rates were measured before and after the physical fitness test.⁴ The increase in pulse rate was significantly lower in the rhodiola group when compared to the placebo group, further demonstrating the beneficial effects of rhodiola during periods of stress.^{4*}*

In a randomized, double-blind, placebo-controlled crossover trial involving 24 healthy students, rhodiola supplementation significantly improved exercise capacity.^{5} Participants were randomly assigned to consume either a placebo or rhodiola extract (providing 200 mg of the extract daily).⁶ After a one-hour absorption period, exercise capacity was measured by an incremental test on a bicycle ergometer (workload was increased every minute after the warm-up period*

until exhaustion). The entire experimental procedure was repeated following a crossover design after a five-day washout period.⁶ When compared to placebo values, acute rhodiola intake significantly increased time to exhaustion, as well as peak O₂ uptake and peak CO₂ output.^{5} Therefore, rhodiola supplementation increased exercise capacity during a stressful, incremental exercise test in young, healthy adults.^{5*}*

A randomized, placebo-controlled, double-blind, crossover study evaluated the effects of rhodiola supplementation on work-related fatigue.⁶ Participants were randomized to consume either a placebo or rhodiola supplement (containing 170 mg of rhodiola extract) daily for two weeks.⁶ After a two-week washout period, participants consumed the alternate supplement.⁶ Five tests were performed to determine the degree of fatigue, including word association, spelling, subtraction, word recall and numerical sequencing.⁶ A total fatigue measure was calculated from the individual five measurements, which were scored according to the following calculation: (test score before night duty / test score after night duty) x 100.⁶ Each test was conducted before and after night duty, with a 24-hour separation period between the tests.⁶ The efficacy tests were conducted four times throughout the study: at baseline, after two weeks of supplementation, after the completion of the washout period, and after two weeks of consuming the alternate supplement.⁶ When compared to placebo values, performance scores significantly improved by 20% after two weeks of rhodiola supplementation, demonstrating the ability of the rhodiola supplement to decrease work-related fatigue.^{6}*

In a randomized, placebo-controlled trial involving male athletes, rhodiola supplementation provided antioxidant support after exercise.^{3} Participants randomly consumed a placebo or rhodiola supplement (100 mg of rhodiola) twice daily for four weeks.³ Blood samples were conducted before and after a 2,000 m rowing test and analyzed for total antioxidant capacity – a measure of the total antioxidant status in the body.³ When compared to baseline values, rhodiola supplementation significantly increased total antioxidant capacity before, directly after and 24 hours after exercise.^{3*} Although oxidative stress was induced by exercise, rhodiola supplementation increased antioxidant levels in the plasma of participants, indicating its beneficial effects on antioxidant support.^{3*}*

REFERENCES

1. Hung, SK, Perry, R, Ernst, E. *Phytomedicine*. 2011; 18: 235–244.
2. Panossian, A, Wikman, G, Sarris, J. *Phytomedicine*. 2010; 17: 481–493.
3. Skarpanska-Stejneger, A, Pilaczynska-Szczesniak, L, Basta, P, Deskur-Smielecka, E. *Int J Sport Nutr Exerc Metab*. 2009; 19: 186–199.
4. Spasov, AA, Wikman, G, Mandrikov, VB, Mironova, A, Neumoin, VV. *Phytomedicine*. 2000; 7(2): 85–89.
5. De Bock, K, Eijnde, BO, Ramaekers, M, Hespel, P. *Int J Sport Nutr Exerc Metab*. 2004; 14: 292–301.
6. Darbinyan, V, Kteyan, A, Panossian, A, Gabrielian, E, Wikman, G, Wagner, H. *Phytomedicine*. 2000; 7(5): 365–371.

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