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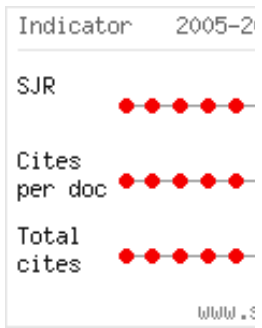
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Effects of adaptogen  
supplementation on  
sport performance. A  
recent review of  
published studies

*Alvaro Molinos Domene*

[Abstract](#)

## Abstract:

Adaptogens are a new class of metabolic regulators (of a natural origin) which have been shown to increase the ability of organism to adapt to environmental factors and to avoid damage to the body from such factors. These properties make the possibility to use these substances to increase the performance in situations of mental and physical stress, and thus used it to improve in sport performance. Latest research show that *Rhodiola rosea*, *Eleutherococcus senticosus*, *Schisandra Chinesis*, *Panax Ginseng* and *Erkang* offer some benefits to use in sport nutrition.

Keywords: Adaptogens, sport supplementation, exercise, *Rhodiola rosea*, *Eleutherococcus senticosus*, *Schisandra chinensis*,

*Panax ginseng*.

Key words: Keywords:

Adaptogens, sport

supplementation, exercise,

Rhodiola rosea, Eleutherococcus

senticosus, Schisandra chinensis,

*Panax ginseng*.

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## References

Lebedev AA. Schizandrin - a new stimulant from Schizandra chinensis fruits. Dissertation for a Degree in Medicine. Tashkent University, Tashkent, p. 16. 1967

Lupandin AV. The use of adaptogens in sports. Modern problems of sport medicine. In: Proceedings of the 24th All-Union Conference on Sport Medicine. Ministry of Health of USSR, Moscow, pp. 56– 61.

1990a.

Panossian A, Wikman G.

Evidence-Based Efficacy of

Adaptogens in Fatigue, and

Molecular Mechanisms Related to

their Stress-Protective Activity.

Curr Clin Pharmacol. 2009 Sep; 4

(3):198-219. Epub 2009.

Panossian, A. Adaptogens: a

historical overview and

perspective. Natural Pharmacy,

2003; 7(4), 1, 19- 20.

Panossian A, Wikman G, Wagner

H. Plant adaptogens III. Earlier

and more recent aspects and

concepts on their mode of

action. Phytomedicine, Vol. 6(4),

pp. 287– 300, 1999

Lazarev, N. V.: Actual problems

of the studies of the action of

adaptogens, particularly

preparations of Eleuterococcus.

Symposium on Ginzeng and

Eleuterococcus. In: XX meeting  
on investigations of Ginseng and  
other medicinal plants of Far  
East, DVFSO, Vladivostok, 7– 14,  
1962.

Brekhman II, Dardymov IV. Annu  
Rev Pharmacol. New substances  
of plant origin which increase  
nonspecific resistance.  
1969; 9: 419-30.

Perfumi M, Mattioli L.  
Adaptogenic and central nervous  
system effects of single doses of  
3% rosavin and 1% salidroside  
Rhodiola rosea L. extract in  
mice. Phytother Res 2007;  
21: 37-43.

Saratikov AS, Krasnov EA,  
Chnikina LA, et al. Rhodiolosid  
ein neues glykosid aus Rhodiola  
rosea und seine  
pharmakologischen  
eigenschaften. Pharmazie 1968;  
23: 392-5.



Saratikov AS, Krasnov EA.

*Rhodiola rosea* (Golden root): a valuable medicinal plant. Tomsk, Tomsk University Press. 2004; pp. 1- 205.

Qian EW, Ge DT, Kong SK.

Salidroside Protects Human Erythrocytes against Hydrogen Peroxide-Induced Apoptosis. *J Nat Prod.* 2012 Apr 27; 75(4):531-7.

Parisi A, Tranchita E, Duranti G, Ciminelli E, Quaranta F, Ceci R et al. Effects of chronic *Rhodiola Rosea* supplementation on sport performance and antioxidant capacity in trained male: preliminary results. *J Sports Med Phys Fitness.* 2010 Mar; 50(1):57-63.

De Bock K, Eijnde BO,

Ramaekers M, Hespel P. Acute *Rhodiola rosea* intake can

improve endurance exercise performance. *Int J Sport Nutr Exerc Metab.* 2004 Jun;14(3):298-307.

Lee FT, Kuo TY, Liou SY, Chien CT. Chronic *Rhodiola rosea* extract supplementation enforces exhaustive swimming tolerance. *Am J Chin Med.* 2009;37(3):557-72.

Brekhman II, Dardymov IV. Pharmacological investigation of glycosides from Ginseng and *Eleutherococcus*. *Lloydia.* 1969;32:46-51.

Kimura Y, Sumiyoshi M. Effects of various *Eleutherococcus senticosus* cortex on swimming time, natural killer activity and corticosterone level in forced swimming stressed mice. *J Ethnopharmacol* 2004; 95:447-53.

Huang LZ, Huang BK, Yea Q, Qina LP. Bioactivity-guided fractionation for anti-fatigue property of *Acanthopanax senticosus* Journal of Ethnopharmacology 133 (2011) 213– 219

Hurnovicz J, Nowicka H, Bargel Z. Effect of *Schizandra chinensis* Baill on the EEG of the rabbit in acute fatigue. J Physiol 1960; 52:122-4.

Panossian A, Wikman G. Pharmacology of *Schisandra chinensis* Baill.: An overview of Russian research and uses in medicine. J Ethnopharmacol. 2008 Jul 23;118(2):183-212

Saito H, Yoshida Y, Takagi K. Effect of *Panax ginseng* root on exhaustive exercise in mice. Jpn J Pharmacol 1974; 24:119-27.

Ferrando A, Vila L, Voces JA,

Cabral AC, Alvarez AI, Prieto JG.

Effects of a standardized Panax  
Ginseng extract on the skeletal  
muscle of the rat: a comparative  
study in animals at rest and  
under exercise. *Planta Med.* 1999  
Apr; 65(3): 239-44

Pieralisi G, Ripari P, Vecchiet L.

Effects of a standardized ginseng  
extract combined with  
dimethylaminoethanol bitartrate,  
vitamins, minerals, and trace  
elements on physical  
performance during exercise.  
*Clin Ther.* 1991 May-Jun; 13  
(3): 373-82.

Jung K-A, Han D, Kwon E-K, Lee  
C-H, Kim Y-E. Antifatigue effect  
of *Rubus coreanus* Miquel extract  
in mice. *J Med Food* 2007;  
10: 689-93.

You Y, Kim K, Heo H, et al.

Stimulatory effects of  
*Pseudosasa japonica* leaves on

exercise performance. *Biosci*

*Biotechnol Biochem* 2006;

70:2532-5.

You Y, Kim K, Yoon HG, Lee KW,

Lee J, Chun J et al. Chronic

effect of ferulic acid from

*Pseudosasa japonica* leaves on

enhancing exercise activity in

mice. *Phytother Res*. 2010

Oct;24(10):1508-13. doi:

10.1002/ptr.3152.

Zhang Y, Yao X, Bao B, Zhang Y.

Anti-fatigue activity of a

triterpenoid- rich extract from

Chinese bamboo shavings

(*Caulis bambusae in taeniam*).

*Phytother Res* 2006; 20:872-6.

Ikeuchi M, Yamaguchi K,

Nishimura T, Yazawa K. Effects

of *Anoectochilus formosanus* on

endurance capacity in mice. *J*

*Nutr Sci Vitaminol* 2005; 51:40-

4.

Murase T, Haramizu S,  
Shimotoyodome A, Tokimitsu I,  
Hase T. Green tea extract  
improves running endurance in  
mice by stimulating lipid  
utilization during exercise. *Am J  
Physiol Regul Integr Comp  
Physiol* 2006; 290:R1550-6.

Morihara N, Ushijima M,  
Kashimoto N, et al. Aged garlic  
extract ameliorates physical  
fatigue. *Biol Pharm Bull* 2006;  
29:962-6.

Morihara N, Nishihama T,  
Ushijima M, Ide N, Takeda H,  
Hayama M. Garlic as an anti-  
fatigue agent. *Mol Nutr Food Res*  
2007; 51:1329-34.

Panossian A. Adaptogens: Tonic  
herbs for fatigue and stress. *Alt  
Comp Ther* 2003; 9:327-32.

Panossian A, Wikman G. Effect of  
adaptogens on the central

nervous system. Arq Bras

Fitomed Cient 2005; 2:108-30.

Panossian A, Wagner H.

Stimulating effects of

adaptogens: An overview of

clinical trials of adaptogens with

particular reference to their

efficacy on single dose

administration. Phytother Res

2005; 19:819-38.

Olsson EMG, von Schéele B,

Panossian AG. A randomized

double- blind placebo controlled

parallel group study of SHR-5

extract of *Rhodiola rosea* roots

as treatment for patients with

stress related fatigue. Planta Med

2009; 75:105-12.

Wu Y, Zhang Y, Wu JA, Lowell T,

Gu M, Yuan CS. Effects of

Erkang, a modified formulation

of Chinese folk medicine Shi-

Quan-Da-Bu-Tang, on mice.

Journal of Ethnopharmacology

Hancke, J., Burgos, R.; Wikman, G.; Ewertz, E.; Ahumada, F.:

*Schizandra chinensis*, a potential phytodrug for recovery of sport horses. *Fitoterapia*, 65 (2): 113– 118, 1994.

Hancke, J.; Burgos, R.; Caceres, D.; Brunetti, F.; Durigon, A.;

Wikman, G.: Reduction of serum hepatic transaminases and CPK in sport horses with poor performance treated with a standardized *Schizandra chinensis* fruit extract.

*Phytomedicine* 3 (2): 237– 240, 1996.

Panossian A, Oganessian A,

Ambartsumian M, Gabrielian E,

Wagner H, Wikman G. Effects of

heavy physical exercise and

adaptogens on nitric oxide

content in human saliva.

*Phytomedicine* 1999; 6: 17-26



