



Cognitive Care*

PHYTONUTRIENT SUPPLEMENT

Combination of adaptogenic herbal and fruit extracts

- Helps the body respond to mental and physical stress*
- Promotes energy metabolism, physical working capacity and general mental wellness*
- Includes standardized extracts from ashwagandha, rhodiola and eleuthero root
- Provides antioxidants from Neurophenol™ grape and organic blueberry fruit blend

Cognitive Care is a unique combination of standardized rhodiola, eleuthero and ashwagandha extracts, plus Neurophenol™ – an organic blueberry and grape seed extract. By mediating neurotransmitter activity and nervous system responses, these adaptogenic herbs support cognitive function and mental performance after occasional mental and physical stress.^{1-2*} Clinical research demonstrates that daily supplementation with 100-200 mg of rhodiola extract significantly supports mental and physical well-being during periods of stress, regulates fatigue in stressful situations, and provides antioxidant protection.^{3-5*} Daily supplementation with eleuthero root has been shown to help the body adjust to mental, physical and metabolic stress, as well as support physical working capacity.^{6,7*} Neurophenol™ is also included to provide polyphenols, which help promote cognitive health in adults.^{8,9*}



Supplement Facts

Serving Size 1 Capsule
Servings per Container 60

Each Capsule Contains

Rhodiola (<i>Rhodiola rosea</i>) Root Std. Extract (3% Rosavins, 1% Salidroside)	144 mg	†
Ashwagandha (<i>Withania somnifera</i>) Root Std. Extract (5-8:1) (675-1080 mg Dried Equivalent / 7% Withanolides)	135 mg	†
Eleuthero (<i>Eleutherococcus senticosus</i>) Root Std. Extract (15:1) (1500 mg Dried Equivalent / 0.8% Eleutherosides)	100 mg	†
Neurophenol™ Proprietary Blend Grape (<i>Vitis vinifera</i>) Fruit Extract Organic Blueberry (<i>Vaccinium angustifolium</i>) Fruit Extract	91 mg	†

† Daily Value not established

Other ingredients: Hypromellose, silica, ascorbyl palmitate

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

Product Size: 60 Vegetable Capsules **Product Code:** 07359



REFERENCES

1. Panossian, AG. Psychiatr Clin N Am. 2013; 36: 49-64.
2. Singh, G, Sharma, PK, Dudhe, R, Singh, S. Ann Biol Res. 2010; 1(3): 56-63.
3. Spasow, AA, Wikman, GK, Mandrikov, VB, Mironova, A, Neumoim, VV. Phytomedicine. 2000; 7(2): 85-89.
4. Darbinyan, V, Kreyan, A, Panossian, A, Gabrielian, E, Wikman, G, Wagner, H. Phytomedicine. 2000; 7(5): 365-371.
5. Skarpanska-Stejnborn, A, Pilaczynska-Szczesniak, L, Basta, P, Deskur-Smielecka, E. Int J Sport Nutr Exer Metab. 2009; 19: 186-199.
6. Hartz, AJ, Noyes, BR, Hoehns, J, Logemann, C, Sinitz, S, Butani, Y, Wang, W, Brake, K, Ernst, M, Kautzman, H. Psychol Med. 2004; 34: 51-61.
7. Asanot, K, Takahashi, T, Miyashita, M, Matsuzaka, A, Muramatsu, S, Kuboyama, M, Kugo, H, Imai, J. Planta Med. 1986; (3): 175-177.
8. Krikorian, R, Shidler, MD, Nash, TA, Kalt, W, Vinqvist-Tymchuk, MR, Shukitt-Hale, B, Joseph, JA. J Agric Food Chem. 2010; 58(7): 3996-4000.
9. Chemicki, EP. Br Jo Nutri. 2012; 108: 794-800.

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Scientific Rationale:

Rhodiola

Rhodiola, a plant used in traditional medicine, is found at high altitudes in the Arctic, Asia and Europe.¹ By decreasing the activity of enzymes that degrade neurotransmitters and by prolonging neurotransmitter activity in the brain, rhodiola elevates bio-electrical brain activity.^{1*} This supports cognitive function as well as promotes attention, memory and learning abilities.^{1*} Rhodiola helps to regulate mediators of stress responses, including the stress hormone cortisol and neuropeptide Y, which in turn promotes 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 supported mental and physical function among male students during a stressful mental and physical 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 supplementation period, included analyses of self-rated fatigue (forms of fatigue, sleeping patterns, mental comfort, mood stability), self-rated general well-being (general state, degree of activity, mood and motivation to work), psycho-motor function (spiral maze test), and change in pulse-rate following a cycling test.⁴ When compared to placebo values, rhodiola supplementation significantly improved all four measures of mental capacity and physical fitness.^{4*}

A randomized, placebo-controlled, double-blind, crossover study evaluated the effects of rhodiola supplementation on work-related fatigue.^{5*} Participants were randomized to consume either a placebo or rhodiola supplement (containing 170 mg of rhodiola extract) daily for two weeks, with a two week washout period in between study arms.⁵ Five tests were performed to determine the degree of fatigue, including word association, spelling, subtraction, word recall, and numerical sequencing.⁵ 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 100.⁵ Each test was conducted before and after night duty, with a 24-hour separation period between the tests.⁵ 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.⁵ 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.^{5*}

Eleuthero

Eleuthero supplementation during periods of stress has been found to significantly decrease the activity of the sympathetic nervous system (which controls the body's fight or flight response) and increase the activity of the parasympathetic nervous system (which controls the body's rest and digest activities).^{6*} Similarly, research has shown that eleuthero promotes mental performance after periods of physical or mental exertion by mediating the signalling of hormones involved in stress responses, including cortisol and norepinephrine.^{7,8*} This promotes the regulation of the hypothalamic-pituitary-adrenal (HPA) axis, which controls various homeostatic processes in the body.^{8*} Eleuthero also raises the consumption and use of oxygen to help the body adjust in times of mental, physical, and metabolic stress.^{7*}

In a randomized controlled trial, eleuthero supplementation provided support for physical and mental stress in adults with moderate fatigue.^{9*} Participants were randomly assigned to consume either a placebo or eleuthero supplement (containing 2.24 mg of eleutherosides) daily for two months.⁹ After the two-month period, all participants consumed the eleuthero supplement.⁹ Participants completed monthly questionnaires, recording their feelings from the previous week, for four months.⁹ Among individuals with moderate fatigue at baseline, significant improvements were observed in vitality scores.^{9*} Additionally, among participants with moderate fatigue who began the study in the placebo group, significant improvements in questionnaire scores were observed after consuming the eleuthero supplement for two months.^{9*}

In a clinical trial involving male athletes, eleuthero supplementation promoted physical working capacity in adults during physical stress.^{10*} Participants consumed either a placebo or eleuthero supplement (containing a total of 300 mg of dried material) for eight days.¹⁰ Maximal work capacity was determined using a Monark bicycle ergometer at baseline and after supplement administration.¹⁰ When compared to placebo supplementation, eleuthero intake significantly improved four measures of working capacity: maximal oxygen uptake, oxygen pulse, total work and exhaustion time.^{10*} Specifically, total work increased by 23% in the eleuthero group, compared to 7.5% in the placebo group (due to the placebo effect).^{10*} The authors noted that the increase in work following eleuthero supplementation may have resulted from improved cardiac function and oxygen metabolism in tissues and organs.^{10*} They suggested that as mitochondria use oxygen to produce ATP, increased oxygen metabolism may improve ATP production in muscle cells.^{10*} In turn, this would positively affect performance, even in times of stress.^{10*}

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Ashwagandha

Ashwagandha is a shrubby plant traditionally used in Ayurvedic and Unani medicine.^{11*} The roots contain withanolides, the primary bioactive compounds of the plant.^{11*} Randomized, double-blind, placebo-controlled trials have found that daily supplementation with ashwagandha extract significantly promotes mental wellbeing, including support for cognitive function and occasional stress.^{12-14*} This neuroprotection may result from the free radical scavenging ability of ashwagandha, or from its ability to promote normal levels of adrenal hormones in times of stress, including cortisol and dehydroepiandrosterone (DHEA).^{13-16*} This is important to note as the ratio of cortisol to DHEA may be a clinical marker of HPA axis functioning.^{17*}

Neurophenol™

Research using aged rats has found that supplementation with blueberry helps to promote cognitive health, including object memory recognition.^{18,19*} In one trial, the antioxidant-rich blueberry diet also promoted healthy levels of NFκB, the cytokine-mediating transcription factor, in four areas of the brain associated with cognitive and motor performance.^{19*} Berry polyphenols may promote healthy vasculature in the brain, including increased cerebral blood flow, maintenance of endothelial cell health and regulation of platelet activity.^{20*} Polyphenols may also support neurotransmitter activity, mediate the metabolism of amyloid protein and increase antioxidant enzymes in the brain.^{20*}

A review of clinical trials has found that supplementation with flavonols supports cognitive function, memory and information processing.^{21*} In a clinical trial involving older adults, daily supplementation with grape juice promoted memory function.^{22*} Participants were randomized to consume either placebo or grape juice daily for 12 weeks.^{22*} Efficacy measurements were conducted at baseline and after the 12-week supplementation period.^{22*} The California Verbal Learning Test (CVLT), a task of list-learning and recall, was used to assess verbal learning and retention.^{22*} Supplementation with the grape product significantly increased the number of items learned on the CVLT when compared to placebo values.^{22*}

Similarly, daily supplementation with blueberry juice promoted cognitive health in older adults.^{23*} Participants were divided into one of two groups, consuming either placebo or blueberry juice daily for 12 weeks.^{23*} Efficacy outcomes determined memory function, including the Verbal Paired Associate Learning Test (V-PAL, which measures the formation of new word associations) and the CVLT (a task of list-learning and recall).^{23*} Blueberry juice supplementation significantly increased the V-PAL cumulative learning score as well as the word list recall performance score on the CVLT, demonstrating its ability to improve memory function in older adults.^{23*}

REFERENCES

- Hung, SK, Perry, R, Ernst, E. *Phytomedicine*. 2011; 18: 235–244.
- Panosian, A, Wikman, G, Sarris, J. *Phytomedicine*. 2010; 17: 481–493.
- Skarpanska-Stejnborn, A, Pilaczynska-Szczesniak, L, Basta, P, Deskur-Smielecka, E. *J Sport Nutr Exer Metab*. 2009; 19: 186–199.
- Spasov, AA, Wikman, GK, Mandrikov, VB, Mironova, A, Neumoim, VV. *Phytomedicine*. 2000; 7(2): 85–89.
- Darbinyan, V, Kteyan, A, Panossian, A, Gabrielian, E, Wikman, G, Wagner, H. *Phytomedicine*. 2000; 7(5): 365–371.
- Panosian, A, Wikman, G. *Pharmaceuticals*. 2010; 3: 188–224.
- Stansbury, J, Saunders, P, Winston, D. *J Restorative Med*. 2012; 1: 76–82.
- Panosian, AG. *Psychiatr Clin N Am*. 2013; 36: 49–64.
- Hartz, AJ, Noyes, BR, Hoehns, J, Logemann, C, Sinift, S, Butani, Y, Wang, W, Brake, K, Ernst, M, Kautzman, H. *Psychol Med*. 2004; 34: 51–61.
- Asanot, K, Takahashit, T, Miyashita, M, Matsuzaka, A, Muramatsu, S, Kuboyama, M, Kugo, H, Imai, J. *Planta Med*. 1986; (3): 175–177.
- Singh, G, Sharma, PK, Dudhe, R, Singh, S. *Ann Biol Res*. 2010; 1(3): 56–63.
- Chengappa, KNR, Bowie, CR, Schlicht, PJ, Fleet, D, Brar, JS, Jindal, R. *J Clin Psychiatry*. 2013; 74(11): 1076–1083.
- Auddy, B, Hazra, J, Mitra, A, Abedon, B, Ghosal, S. *JANA*. 2008; 11(1): 50–56.
- Chandrasekhar, K, Kapoor, J, Anishetty, S. *Indian J Psychol Med*. 2012; 34(3): 255–262.
- Naidu, PS, Singh, A, Kulkarni, SK. *Phytother. Res*. 2006; 20: 140–146.
- Konar, A, Shah, N, Singh, R, Saxena, N, Kaul, SC, Wadhwa, R, Thakur, MK. *PLoS ONE* 6(11): e27265.
- Guilliams, TG, Edwards, L. *The Standard*. 2010; 9(2): 1–12.
- Malin, DH, Lee, DR, Goyarzu, P, Chang, YH, Ennis, LJ, Beckett, E, Shukitt-Hale, B, Joseph, JA. *Nutrition*. 2011; 27: 338–342.
- Goyarzu, P, Malin, DH, Lau, FC, Taglialatela, G, Moon, WD, Jennings, R, Moy, E, Lippold, S, Shukitt-Hale, B, Joseph, JA. *Nutr Neurosci*. 2004; 7(2): 75–83.
- Cherniack, EP. *Br J Nutr*. 2012; 108: 794–800.
- Macready, AL, Kennedy, OB, Ellis, JA, Williams, CM, Spencer, JPE, Butler, LT. *Genes Nutr*. 2009; 4: 227–242.
- Krikorian, R, Nash, TA, Shidler, MD, Shukitt-Hale, B, Joseph, JA. *Br J Nutr*. 2010; 103: 730–734.
- Krikorian, R, Shidler, MD, Nash, TA, Kait, W, Vinquist-Tymchuk, MR, Shukitt-Hale, B, Joseph, JA. *J Agric Food Chem*. 2010; 58(7): 3996–4000.

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