

Vitamin B1-B6-B12

Tablets

Vitamins B1 (Thiamine), B6 (Pyridoxine), and B12 (Cobalamin)

are indispensable factors in the metabolism of the nervous system and the brain, essential in maintaining cognitive functions and neurotransmission.^[1] These three B vitamins could enhance physical strength, brainpower and resistance and stimulate appetite. B vitamins supplement is suitable for those get fatigue easily or need to be mentally agile in their jobs.^[1-3,5,7]

Vitamin B1 (Thiamine) is good for nervous system, muscle and brainpower

Thiamine, a water-soluble B-group vitamin, is necessary for maintaining normal appetite.^[2] It functions as a coenzyme in the conversion of carbohydrates and certain amino acids to provide energy for muscle, brain and nervous tissue.^[1,3] Therefore, thiamine could modulate cognitive performance and help avoid muscle fatigue and body tiredness, also promote health of the brain and the nervous system. Thiamine deficiency has been associated with chronic alcoholism.^[3,4] Consumption of tea and coffee would also increase the requirement for thiamine intake.^[4]

Vitamin B6 (Pyridoxine) facilitates activities of over 100 enzymes

Vitamin B6 plays a role in the processing and metabolism of proteins, fats and carbohydrates. It is also required for the proper growth and development of the brain, nerves, skin, and many other parts of the body.^[5] The major form of vitamin B6 in the tissues is PLP. PLP is a coenzyme for more than 100 enzymes involved in amino acid metabolism, neurotransmitter synthesis and heme biosynthesis.^[3] It helps maintain a sufficient supply of hemoglobin and at the same time its antioxidant activity protects the red blood cells and lens cells from oxidative damage.^[6] Vitamin B6 may also help relieve depression, irritability and tiredness of premenstrual women.^[7]

Vitamin B12 (Cobalamin) is essential for red blood cell formation and normal neurological function

Vitamin B12 acts as a cofactor for enzymes. An adequate supply is essential for normal blood formation and neurological function.^[3] It participates in methyl conversion and folic acid metabolism, facilitates blood cell and nerve cell metabolism and neurotransmitter synthesis to ensure normal function of the central nervous system.^[1,3,8]

Some individuals, especially the elderly or people with digestive tract disorders, may be unable to absorb naturally occurring vitamin B12 effectively.^[3,8] They may need to take supplements in order to meet their dietary requirement. People with B12 deficiency may experience impaired mental functions and depression.^[9] Supplementation with B12 may improve cerebral and cognitive functions in the elderly.^[1]

Main functions of the combination of vitamins B1, B6 & B12:

- ▶ Boost energy supply to muscle, brain and nervous tissue ^[1,3,5]
- ▶ Improve cognitive performance ^[1,3]
- ▶ Promote appetite and improve mood ^[2,7]
- ▶ Antioxidant to maintain healthy cells ^[6]
- ▶ Provide coenzyme for synthesis of heme and blood cells ^[9]

Recommended daily dose:

Adults take 1 tablet daily or as recommended by physicians.



References:

1. Bourre JM. Effects of nutrients (in food) on the structure and function of the nervous system: update on dietary requirements for brain. Part 1: micronutrients. J Nutr Health Aging. 2006;10(5):377-85..
2. Genetics Home Reference, U.S. National Library of Medicine, National Institutes of Health. Thiamine-responsive megaloblastic anemia syndrome. Last update: Feb 2009. Available at: <http://ghr.nlm.nih.gov/condition/thiamine-responsive-megaloblastic-anemia-syndrome>.
3. Food and Nutrition Board, Institute of Medicine. Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. Washington, D.C.: National Academy Press, 1998. In Print.
4. Page GL, Laight D, Cummings MH. Thiamine deficiency in diabetes mellitus and the impact of thiamine replacement on glucose metabolism and vascular disease. Int J Clin Pract. 2011;65(6):684-90.
5. U.S. National Library of Medicine, National Institute of Health. Pyridoxine (Vitamin B6): MedlinePlus Supplements. Last update: 21 Jul 2011. Available at: <http://www.nlm.nih.gov/medlineplus/druginfo/natural/934.html>.
6. Wondrak GT, Jacobson EL. Vitamin B6: beyond coenzyme functions. Subcell Biochem. 2012;56:291-300.
7. Doll H, Brown S, Thurston A, Vessey M. Pyridoxine (vitamin B6) and the premenstrual syndrome: a randomized crossover trial. J R Coll Gen Pract. 1989;39(326):364-8.
8. U.S. National Library of Medicine, National Institute of Health. Vitamin B12: MedlinePlus Medical Encyclopedia. Last update: 15 Feb 2011. Available at: <http://www.nlm.nih.gov/medlineplus/ency/article/002403.htm>.
9. Sánchez-Villegas A, Doreste J, Schlatter J, Pla J, Bes-Rastrollo M, Martínez-González MA. Association between folate, vitamin B6 and vitamin B12 intake and depression in the SUN cohort study. J Hum Nutr Diet. 2009;22(2):122-33.