

B-Complex Ultra coenzyme (active form) B vitamins 50 mg

60 vegetable capsules / Code FE2020



Incorporates coenzyme (active form) B vitamins, functional **flush-free** niacin, and enhanced-absorption choline. A complete B-complex formulated for maximum absorption, fast-acting and flush-free.

HEALTH CLAIMS (EU Regulation 432/2012): *The vitamins B2, B3, B6 and B12 contribute to a normal functioning of the nervous system, to a normal energy-yielding metabolism and to the reduction of tiredness and fatigue. The vitamins B2, B6 and B12 contribute to the maintenance of normal red blood cells and folate to normal blood formation and to maternal tissue growth during pregnancy. Vitamin B2 contributes to the normal metabolism of iron and the vitamins B6, B12 and folate to the normal function of the immune system.*



Vegan. Ovo-lactovegetarian. Gluten free. Dairy free

FORMAT: 60 vegetable capsules

FORMULA

Ingredients: Choline bitartrate, D-pantothenate calcium (vit. B5), thiamin hydrochloride (vit. B1), riboflavin (vit. B2), inositol, para-aminobenzoic acid (PABA), inositol hexanicotinate (vit. B3), bulking agent (microcrystalline cellulose), pyridoxine hydrochloride (vit. B6), anticaking agents (magnesium salts of fatty acids and silicon dioxide), D-biotin, calcium-L-methylfolate, riboflavin 5'-phosphate sodium (vit. B2), pyridoxal 5'-phosphate (vit. B6), methylcobalamin (vit. B12), vegetable capsule (glazing agent: hydroxypropylmethylcellulose; humectant: purified water)

Nutritional information:	1 capsule	VRN*
Thiamin (vit. B1) (from 50 mg thiamin HCl)	44,6 mg	4.055%
Riboflavin (vit. B2) (from 50 mg riboflavin + 5 mg riboflavin 5'-phosphate sodium)	53,8 mg	3.843%
Niacin (vit. B3) (from 50 mg inositol hexanicotinate, flush-free)	45,45 mg NE	284%
Pantothenic acid (vit. B5)(from 50 mg D-pantothenate calcium)	45,8 mg	763%
Vitamin B6 (from 20 mg pyridoxine HCl + 5 mg pyridoxal 5'-phosphate)	12 mg	857%
Vitamin B12 (methylcobalamin)	150 µg	6.000%
Folate (calcium-L-methylfolate)	500 µg	250%
Biotin	75 µg	150%
Choline	50 mg	
Inositol	50 mg	
PABA (para-aminobenzoic acid)	50 mg	

*NRV: Nutrient Reference Value in %

Cautions:

Consult a health-care practitioner prior to use if you are pregnant or breast-feeding, or if you are treated with medication, especially sulfonamides, or if you have a special medical condition.

Recommended daily dose:

1 capsule daily with food. Do not exceed the stated recommended daily dose.

Indications and uses:

Stress, anxiety, fatigue and tiredness, providing energy and improving mood.

It is absolutely recommended for those exposed to stressful situations or who have a poor dietary intake, lack of concentration or memory loss.

DETAILS:

The B vitamins in their active coenzyme form allow for rapid absorption by cells, without the need for conversion by the liver. Thanks to this coenzyme form, B-ComplexUltra allows for maximum absorption with a fast effect. It contains no-flush inositol hexanicotinate (vit. B3, niacin).

The B vitamins are a complex of water soluble vitamins that are complementary to each other. They're called 'B complex' vitamins because they are not found separately in any food or living tissue without the presence of the others. They are mainly responsible for the health and maintenance of nerves, digestion and skin, as well as processing carbohydrates, fat and protein,

growth, producing hormones and digestive enzymes, preventing anaemia, and maintaining sexual glands, sebaceous glands and bone marrow.

B-ComplexUltra uses the synergic action of all of the B complex vitamins, which can improve DNA methylation, a process that decreases with age, inhibit glycosylation, suppress serum levels of apolipoprotein (a factor of atherosclerosis); suppress oxidative stress, protect against thrombosis and maintain capillary circulation.

INGREDIENTS:

THIAMINE (Vit. B1): A vitamin B1 deficiency manifests as an unspecific syndrome characterized by discomfort, headache, myalgia and nausea, as well as cardiovascular manifestations (peripheral vasodilation, oedema and ventricular insufficiency) and neurological manifestations (neuropathy, ataxia, lack of concentration, etc.).

It is necessary for the correct use of carbohydrates^(1,2). Different studies confirm that it can help maintain a positive mental attitude, increase learning capacity, increase energy, fight against stress and prevent memory loss, including Alzheimer's disease⁽¹⁻⁴⁾.

RIBOFLAVIN: Intervenes in the transformation of food into energy, producing thyroid enzymes that participate in this process, favouring carbohydrate, fat and protein metabolism through its coenzyme forms FAD and FMN, participating in energy production in the respiratory chain⁽⁵⁾. It helps conserve good visual health, is used for preventing cataracts and for coadjuvant migraine treatment⁽⁶⁾. It is also used for treating acne, muscle cramps, carpal tunnel syndrome and blood disorders such as red blood cell aplasia^(6,7).

Riboflavin-5'-phosphate allows people with certain enzyme deficiencies to obtain all of the benefits of vitamin B2. This form of vitamin B2 has fast-acting effects in the body. Riboflavin-5'-phosphate is quickly hydrolysed to produce riboflavin after ingestion, and riboflavin and riboflavin-5'-phosphate are in metabolic balance after absorption. Riboflavin-5'-phosphate is part of the prosthetic group of flavoproteins involved in general cell metabolism as hydrogen acceptors.

NIACIN (Vit. B3): Facilitates processes involved in fat, protein and carbohydrate metabolism. It plays an important role in maintaining proper nerve and digestive function and mental well-being. Different studies affirm its usefulness for combatting diseases such as schizophrenia, dementia, depression, senility, obsessive-compulsive disorder and other brain-related diseases, stress and arthritis⁽⁵⁾. It reduces LDL cholesterol⁽⁸⁾.

PANTOTHENIC ACID (Vit.B5): Plays an important role in cell metabolism. As a coenzyme, it participates in the release of energy from carbohydrates, fat and protein, and in the use of other vitamins, especially riboflavin, or vitamin B2. It is considered one of the main anti-stress nutrients, especially vital for the production of stress regulating hormones in the adrenal glands, recommended in treatments for anxiety and/or nervous states⁽¹⁰⁾. A deficiency of this vitamin can cause fatigue, apathy, poor mood, sleep alterations, nausea and abdominal discomfort^(9,10).

VITAMIN B6 (PYRIDOXINE): Intervenes in the elaboration of mood-regulating brain substances such as serotonin, and can be of help for some in cases of depression, stress and sleep alterations.

Very popular among athletes, it increases muscular performance and energy production. This is because when there is a greater demand for effort, it favours the release of glycogen stored in the liver and muscles. It can also help with weight loss since it helps the body obtain energy from accumulated fat⁽¹¹⁾.

Pyridoxal-5'-phosphate is the active coenzyme form of vitamin B6. Most B complex formulas contain only the inactive pyridoxine hydrochloride form. Pyridoxal-5'-phosphate is immediately assimilated since it does not have to be processed first by the liver.

VITAMIN B12: This could be called the memory vitamin because the organ that most depends on it is the brain. It contributes to healthy nerve and red blood cells, helps with neurotransmitter synthesis and is needed for DNA production and nervous system balance. A deficiency of vitamin B12 can cause mental confusion and neurological changes, and can make it difficult to deal with stress⁽¹²⁾. This water-soluble vitamin is important for producing the sleep hormone melatonin and the mood hormone serotonin. It is absolutely necessary for folic acid metabolism⁽¹³⁾.

FOLATE: The essential and necessary vitamin for obtaining energy. The body is unable to produce folic acid on its own. If there is a deficiency in folic acid, people can experience depression and fatigue, causing higher levels of stress⁽¹⁴⁾.

BIOTIN: Catalyses carbon dioxide fixation in the synthesis of fatty acids. It intervenes in haemoglobin formation and in obtaining energy from glucose⁽⁶⁾.

B-Complex Ultra coenzyme (active form) B vitamins 50 mg

60 vegetable capsules / Code FE2020



CHOLINE: Responsible for proper brain and nervous system function. It favours concentration and invigorates the mind ⁽⁶⁾. A choline deficiency decreases mental efficiency and may cause anxiety, irritability, insomnia and hepatic problems such as hepatic insufficiency or hepatic steatosis (fatty liver) ⁽¹⁵⁾.

INOSITOL: Known for fighting the symptoms of anxiety, it calms panic attacks and relieves depression. Additionally, it reduces high cholesterol, helps burn fat and relieves skin conditions such as psoriasis. A deficiency of inositol is related with bipolar disorder and depression ^(17,18). In other cases, it can simply lead to feelings of low energy, negativity and poor mood ⁽¹⁹⁾.

PABA: This influences the efficacy and formation of folic acid upon stimulating the growth of determined intestinal bacteria. It can increase vitality as it increases the oxygen supply to tissues and collaborates in the formation of red blood cells ⁽²⁰⁾.

References:

- 1) Schenk, Gerhard, Ronald G. Duggleby, and Peter F. Nixon. "Properties and functions of the thiamin diphosphate dependent enzyme transketolase." *The international journal of biochemistry & cell biology* 30.12 (1998): 1297-1318.
- 2) Gregory, J. F. "Bioavailability of Thiamin." *European journal of clinical nutrition* 51 (1997): S34-S37.
- 3) Héroux, Maryse, et al. "Alterations of thiamine phosphorylation and of thiamine-dependent enzymes in Alzheimer's disease." *Metabolic brain disease* 11.1 (1996): 81-88.
- 4) Benton, David, Rebecca Griffiths, and Jurg Haller. "Thiamine supplementation mood and cognitive functioning." *Psychopharmacology* 129.1 (1997): 66-71.
- 5) Mataix, J. "Nutrición y Alimentación Humana: situaciones fisiológicas y patológicas." Vol II. Barcelona-España: Océano (2005).
- 6) McCormick, DONALD B. "Two interconnected B vitamins: riboflavin and pyridoxine." *Physiological Reviews* 69.4 (1989): 1170-1198.
- 7) Institute of Medicine (US) Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. *Dietary reference intakes for thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline*. National Academies Press (US), 1998.:87-122
- 8) Lavigne, Paul M., and Richard H. Karas. "The current state of niacin in cardiovascular disease prevention: a systematic review and meta-regression." *Journal of the American College of Cardiology* 61.4 (2013): 440-446.
- 9) Bender, David A. "Optimum nutrition: thiamin, biotin and pantothenate." *Proceedings of the Nutrition Society* 58.2 (1999): 427-433.
- 10) Tahiliani, Arun G., and Cathy J. Beinlich. "Pantothenic acid in health and disease." *Vitamins & Hormones*. Vol. 46. Academic Press, 1991. 165-228.
- 11) McCarty, M. F. "High-dose pyridoxine as an 'anti-stress' strategy." *Medical Hypotheses* 54.5 (2000): 803-807.
- 12) Kelly, Gregory S. "Nutritional and botanical interventions to assist with the adaptation to stress." *Alternative medicine review: a journal of clinical therapeutic* 4.4 (1999): 249-265.
- 13) James, S. Jill, et al. "Efficacy of methylcobalamin and folinic acid treatment on glutathione redox status in children with autism." *The American journal of clinical nutrition* 89.1 (2008): 425-430.
- 14) Lucock, Mark. "Folic acid: nutritional biochemistry, molecular biology, and role in disease processes." *Molecular genetics and metabolism* 71.1-2 (2000): 121-138.
- 15) Shaw, Gary M., et al. "Periconceptional dietary intake of choline and betaine and neural tube defects in offspring." *American journal of epidemiology* 160.2 (2004): 102-109.
- 16) Billcliff, Peter G., and Martin Lowe. "Inositol lipid phosphatases in membrane trafficking and human disease." *Biochemical Journal* 461.2 (2014): 159-175.
- 17) Benjamin, Jonathan, et al. "Inositol treatment in psychiatry." *Psychopharmacology bulletin* (1995).
- 18) Burton, Adam, Xiaowen Hu, and Adolfo Saiardi. "Are inositol pyrophosphates signalling molecules?." *Journal of cellular physiology* 220.1 (2009): 8-15.
- 19) Padayatty, Sebastian J., et al. "Vitamin C as an antioxidant: evaluation of its role in disease prevention." *Journal of the American college of Nutrition* 22.1 (2003): 18-35.
- 20) Rossi, Maddalena, Alberto Amaretti, and Stefano Raimondi. "Folate production by probiotic bacteria." *Nutrients* 3.1 (2011): 118-134.