



# Vitamin B Complex + C Formula

**Vitamin B Complex + C Formula** contain vitamins B1, B2, B3, B5, B6, B12 enriched with vitamin C. These vitamins work together to perform vital functions in the body such as energy production, boosting brainpower, health and appetite. It is recommended for those who are easily fatigued and rely on mental agility in their jobs such as students, people work in the educational field and financial field. <sup>[1-3,5,9,12]</sup>

**Vitamin B1 (Thiamine)** is necessary for maintaining normal appetite. <sup>[1]</sup> It functions as a coenzyme in the conversion of carbohydrates and certain amino acids to provide energy for muscle, brain and nervous tissue. <sup>[2,3]</sup> Therefore, thiamine could modulate cognitive performance and help avoid muscle fatigue and body tiredness, also promote health of the brain and the nervous system.

**Vitamin B2 (Riboflavin)** is a water soluble vitamin functions as a catalyst for oxidation reduction reactions in numerous metabolic pathways and in energy production. <sup>[3]</sup> Riboflavin is essential for membrane integrity, body growth, red blood cell production and for all energy-related cellular functions. <sup>[4,5]</sup> It also aids conversion of other B vitamins into their bioactive form and as such facilitates the activity of the absorbed vitamins. <sup>[3]</sup> Deficiency of riboflavin would cause sore throat, skin disorders, cracked mouth corners, anemia, etc.

**Vitamin B3 (Niacin)** plays an important role as catalysts in the energy production process. <sup>[3]</sup> Niacin works together with other B vitamins and helps the digestive system, skin and nerves to function. <sup>[6]</sup> Niacin could help maintain DNA stability and catalyse repair processes. <sup>[7]</sup>

**Vitamin B5 (Pantothenic acid)** is a water soluble vitamin, which is a component of coenzyme A which is involved in fatty acid metabolism. <sup>[3]</sup> Vitamin B5 is known to help get rid of and prevent formation of acne and dandruff. <sup>[8]</sup> It assists in skin metabolism and maintains the skin in optimal condition. <sup>[8]</sup> Deficiency in vitamin B5 can lead to sleep disturbances, nausea, fatigue, irritability and skin abnormalities. <sup>[3]</sup>

**Vitamin B6 (Pyridoxine)** 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. <sup>[9]</sup> 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. <sup>[3]</sup> 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. <sup>[10]</sup>

**Vitamin B12 (Cobalamin)** acts as a cofactor for enzymes. An adequate supply is essential for normal blood formation and neurological function. <sup>[3]</sup> 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. <sup>[2,3,11]</sup> People with B12 deficiency may experience impaired mental functions and depression. <sup>[12]</sup>

**Vitamin C (Ascorbic Acid)** is a water-soluble antioxidant with high reducing power. It is necessary for the biosynthesis of extracellular matrix, collagen, neurotransmitters, hormones and amino acids. <sup>[13]</sup> It can effectively scavenge free radicals and singlet oxygen which help protect the eye, skin, blood cells and germ cells from oxidative damage. <sup>[13]</sup> Supplementation of vitamin C could speed up wound healing process. <sup>[14]</sup> It is beneficial to normal development of bones and capillaries. <sup>[14]</sup>

### **Vitamin B Complex + C Formula may be beneficial in the following conditions:**

- Boost energy supply to muscle, brain and nervous tissue <sup>[2-5,9]</sup>
- Maintain normal neurotransmission <sup>[2,3,11,13]</sup>
- Improve cognitive performance <sup>[2,3,12]</sup>
- Promote appetite and improve mood <sup>[1,3,12]</sup>
- Strong antioxidant to maintain healthy cells <sup>[3,6,10,13]</sup>
- Maintain DNA stability and catalyse repair processes <sup>[7]</sup>
- Provide coenzyme for synthesis of connective tissues and blood cells <sup>[3,5,10]</sup>
- Improve skin and hair condition <sup>[3,6,8,13]</sup>
- Speed up wound healing <sup>[14]</sup>

### **Recommended daily dose:**

For adults, take 1 tablet daily or as recommended by physicians.

### References:

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14. MacKay D, Miller AL. Nutritional support for wound healing. *Altern Med Rev*. 2003;8(4):359-77.