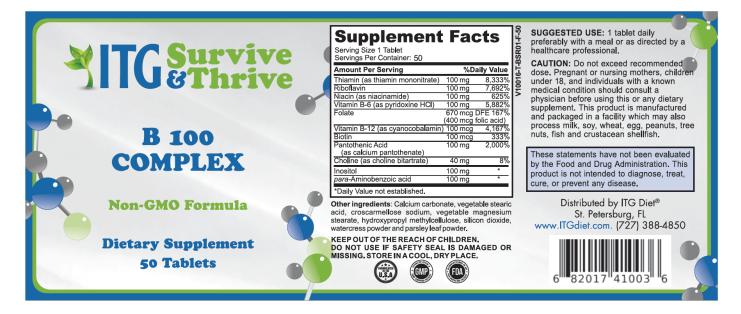


B 100 Complex



B Complex Vitamins play an essential role in balancing the immune system. Vitamin B1 deficiency is associated with neuroinflammation and/or overexpression of proinflammatory cytokines. Vitamin B2 or riboflavin is important in developing the mucosal immunity and Vitamin B3 (Niacin) potentiates innate immunity while dampening excess inflammation. B12 and B6 are important for healthy immune response. Yet many adults are deficient in them, which may negatively affect immune health.^{1,2}

Vitamin B-1 (Thiamine Mononitrate), is a colorless compound with the chemical formula C12H17N4OS. It is soluble in water and insoluble in alcohol. Thiamine decomposes if heated. Thiamine was first discovered by Umetaro Suzuki in Japan when researching how rice bran cured patients of Beriberi. Thiamine plays a key role in intracellular glucose metabolism and it is thought that thiamine inhibits the effect of glucose and insulin on arterial smooth muscle cell proliferation. Thiamine plays an important role in helping the body convert carbohydrates and fat into energy. It is essential for normal growth and development and helps to maintain proper functioning of the heart and the nervous and digestive systems. Thiamine cannot be stored in the body; however, once absorbed, the vitamin is concentrated in muscle tissue.³

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Vitamin B-2 (Riboflavin) is one of the B vitamins which are water soluble. Riboflavin is naturally present in some foods, added to some food products, and available as a dietary supplement. It is a vitamin that is needed for growth and overall good health. It helps the body break down carbohydrates, proteins and fats to produce energy, and it allows oxygen to be used by the body.

This vitamin is an essential component of two major coenzymes, flavin mononucleotide (FMN; also known as riboflavin-5'-phosphate) and flavin adenine dinucleotide (FAD). These coenzymes play major roles in energy production; cellular function, growth, and development; and metabolism of fats, drugs, and steroids.⁴

Most riboflavin is absorbed in the proximal small intestine. The body absorbs little riboflavin from single doses beyond 27 mg and stores only small amounts of riboflavin in the liver, heart, and kidneys. When excess amounts are consumed, they are either not absorbed or the small amount that is absorbed is excreted in urine.

Vitamin B-3 (niacin) is one of the eight B complex vitamins that help your body convert food to energy. Niacin also helps improve blood circulation and cholesterol levels. As a supplement, niacin may help lower "bad" LDL cholesterol and triglycerides, improve blood circulation, ease arthritis and boost brain function, among other benefits.⁵

Vitamin B-6 (pyridoxine) is needed to help your body use protein, form red blood cells and maintain brain function. It plays an important role in the body. It is needed to maintain the health of nerves, skin, and red blood cells. Pyridoxine has been used to prevent or treat a certain nerve disorder (peripheral neuropathy) caused by certain medications (such as isoniazid).⁶

Vitamin B-9 (folate/folic acid) Is one of the B-vitamins and is needed to make red and white blood cells in the bone marrow, convert carbohydrates into energy, and produce DNA and RNA. Adequate folate intake is extremely important during periods of rapid growth such as pregnancy, infancy, and adolescence. It is important in red blood cell formation and for healthy cell growth and function. It's also important for the developing fetus during pregnancy. Folic acid is the synthetic form of folate. Adequate folate intake is extremely important during periods of rapid growth such as pregnancy, infancy, and adolescence.⁷

Vitamin B-12 (from Cyanocobalamin) is an important water-soluble vitamin involved in red blood cell production, brain health, cell metabolism, nerve function and DNA synthesis.

If you're over age 50 or don't eat any animal foods, you're likely to need supplements containing B-12 to prevent a deficiency in this vitamin. Many older adults are at risk of deficiency because, with age, it can be harder to absorb B-12 from animal foods. A vitamin B-12 deficiency can cause permanent nerve damage, resulting in numbness and tingling in the hands and feet, and balance problems. Deficiency can also cause anemia, depression, confusion, poor memory and dementia. Concerns have been raised about the apparent link between low levels of B-12 and an increase in homocysteine, an amino acid that can cause problems within your coronary arteries.⁸

Biotin - This B Vitamin helps turn the carbohydrates, fats, and proteins in the food you eat into the energy you need. It has been known to improve the health of your hair, skin and nails. Biotin deficiency can cause thinning hair and loss of body hair; a rash around the eyes, nose, mouth, and anal area; pinkeye; high levels of acid in the blood and urine; seizures; skin infection; brittle nails; and nervous system disorders. Symptoms of biotin deficiency in infants include weak muscle tone, sluggishness, and delayed development.⁹

B-5 Pantothenic Acid as (Calcium Pantothenate) is the calcium salt of the water-soluble vitamin B5, ubiquitously found in plants and animal tissues with antioxidant property. Pantothenate is a component of coenzyme A (CoA) and a part of the vitamin B2 complex. It is a growth factor and is essential for various metabolic functions, including the metabolism of carbohydrates, proteins, and fatty acids. This vitamin is also involved in the synthesis of cholesterol, lipids, neurotransmitters, steroid hormones, and hemoglobin.¹⁰

Choline as (Choline Bitartrate) is used for liver disease, including chronic hepatitis and cirrhosis. It is also used for depression, memory loss, Alzheimer's disease and dementia, Huntington's chorea, Tourette's disease, a brain disorder called cerebellar ataxia, certain types of seizures, and the mental condition schizophrenia. It is used in many chemical reactions in the body. Choline seems to be important to the nervous system. In asthma, choline might help decrease swelling and inflammation.¹¹

Inositol is a vitamin-like substance. It is found in many plants and animals. It is also produced in the human body and can be made in a laboratory. Inositol can be found in many forms (called isomers). The most common forms are myo-inositol and D-chiro-inositol. Inositol might balance certain chemicals in the body to possibly help with mental conditions such as panic disorder, depression, and obsessive-compulsive disorder. It might also help insulin work better. This might help with conditions such as polycystic ovary syndrome or diabetes during pregnancy.¹²

Para-aminobenzoic acid (**PABA**) is a chemical found in the folic acid vitamin and in several foods including grains, eggs, milk, and meat. PABA is taken by mouth for skin conditions including vitiligo, pemphigus, dermatomyositis, morphea, lymphoblastoma cutis, Peyronie's disease, and scleroderma. PABA is also used to treat infertility in women, arthritis, "tired blood" (anemia), rheumatic fever, constipation, systemic lupus erythematosus (SLE), and headaches. It is also used to darken gray hair, prevent hair loss, make skin look younger, and prevent sunburn.¹³

Suggested Serving: 1 Tablet Daily

References:

- ¹ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5358464/
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⁵ healthline.com/nutrition/niacin-benefits#TOC_TITLE_HDR_1

⁶ webmd.com/drugs/2/drug-5427/pyridoxine-vitamin-b6-oral/details

⁷ medicalnewstoday.com/articles

⁸ mayoclinic.org/documents/mc5129-0709-sp-rpt-pdf/doc-20079085#:~:text=Vitamin%20B%2D12%20plays%20essential,a%20deficiency%20in%20this%20vitamin.

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¹¹ webmd.com/vitamins/ai/ingredientmono-436/choline

¹² webmd.com/vitamins/ai/ingredientmono-299/inositol

¹³ webmd.com/vitamins/ai/ingredientmono-1004/para-aminobenzoic-acid-paba#:~:text=Para%2Daminobenzoic%20acid%20(PABA)%20is%20a%20chemical%20found%20in,%2C%20Peyronie 's%20disease%2C%20and%20scleroderma.