

# B-Supreme

Comprehensive B vitamin formula featuring NatureFolate™



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This powerful and effective B vitamin combination formula supplies B vitamins in their preferred coenzymated forms, where possible, so the body does not have to phosphorylate them in order to be used in biochemical reactions. B-Supreme contains our proprietary NatureFolate™ blend of active isomer, naturally-occurring folates. Choline and TMG are included to help support efficient methylation for optimal genetic expression.

## History of B Vitamins

B vitamins are a family of water-soluble nutrients that were discovered together at the beginning of the 20th century, initially thought simply to be “vitamin B.” As nutrition advanced, however, it was learned that they are in fact a family of compounds, each with a distinct role to play in promoting health. B vitamins are now known to play critical roles in modulating biochemistry and metabolism, and represent the most common vitamins utilized by the body as cofactors for facilitating enzymatic function. The modern refined diet, high in sugar, alcohol, and devitalized foods, leads to lower levels of B vitamins. Many medications and stress may lower B vitamin levels. While B vitamins have mainly been researched individually, they also have therapeutic power when taken together. For example, a B complex supplement can relieve nocturnal leg cramps in the elderly.<sup>1</sup>

## Thiamin (Vitamin B1)

Vitamin B1 is needed for energy production, heart function, and the health of the brain and nervous system. B1 also helps remove lead from the body. Fifty milligrams of B1 was given to sixty women for two months, and increased levels of B1 made these women feel more clearheaded, composed and energetic.<sup>2</sup> Fifty milligrams of B1 per day improved mental wellness in epileptics.<sup>3</sup>

## Riboflavin (Vitamin B2): Antioxidant

Vitamin B2, also known as riboflavin, is another B vitamin that helps the body turn food into energy. B2 is also a powerful antioxidant. Patients with low thyroid function may have an increased need for vitamin B2, particularly in the activated form known as riboflavin-5-phosphate. Taking riboflavin imparts a yellow color to the urine which is harmless.

## Niacinamide: Antioxidant Aiding Glucose Control and Bone Health

Niacinamide is needed to metabolize food (carbohydrates, fats, and proteins) into energy. Niacinamide is converted into the coenzymes nicotinamide adenine dinucleotide (NAD) and NADP, which function in oxidation-reduction reactions. The liver can convert niacin into niacinamide by adding an amine group. Biological responses to niacin, nicotinic acid and niacinamide are virtually equivalent when taken in common doses. When taken in supraphysiological doses they act differently (e.g., 500 mg niacin for stabilizing lipids). Clinical signs of early niacinamide deficiency include lack of appetite, muscular fatigue, indigestion, depression, insomnia, headaches, glossitis, and skin lesions. Severe deficiency may lead to pellagra, with dermatitis, dementia, diarrhea (the “3 Ds” of pellagra), tremors and sore (black) tongue. Some people feel more relaxed when taking niacinamide. Niacinamide (also known as nicotinamide) has been shown in research to protect and even regenerate islet cells of the pancreas and may be helpful for blood sugar support.<sup>7,8</sup>

*\*Due to some individuals having sensitivities to even small doses of the other form of vitamin B3 niacin (or nicotinic acid), we have excluded this from our formula. For individuals seeking aggressive niacin therapy for the purpose of lowering lipids or for various circulatory disorders, you might consider our 500 mg Niacin CRT featuring our “Controlled Release Technology™” which releases at a steady, controlled rate over 10-12 hours.*

## Vitamin B6: For Good Health

Vitamin B6 plays an important role in vital life processes, which include amino acid metabolism, hemoglobin production, the efficient functioning of the nervous and immune systems and the modulation of blood sugar.<sup>9</sup> B6 supports overall female hormonal balance and is very useful in the management of PMS,<sup>10</sup> as well as nausea and vomiting that may accompany pregnancy.<sup>11</sup> The depression some experience on oral contraceptives can be helped with 40 mg per day of B6.<sup>12</sup> Vitamin B6 has several forms, namely: pyridoxine, pyridoxal, pyridoxamine, and the phosphorylated versions of these forms. Vitamin B6 in B-Supreme is presented as pyridoxine and the activated form known as pyridoxal-5-phosphate.

## Folate: For Wellness

Folates are essential cofactors in one carbon metabolism and their deficiency is associated with health risks such as neural tube defects, cancers and hyperhomocysteinemia. “Folic acid” and “folate” are often used interchangeably, but more appropriately, folic acid refers to the fully oxidized synthetic compound (pteroylmonoglutamic acid) used in dietary supplements and in food fortification, while folate refers to the various tetrahydrofolate derivatives naturally present in foods. It seems that since the mandatory folic acid fortification of cereal-grain products in the US in 1998, many breakfast cereals are over-fortified with folic acid. Consumption of cereal along with other folic acid-containing beverages and dietary supplements could result in chronically high intake of synthetic folic acid. The appearance of unmetabolized folic acid in the bloodstream following intake of as low as 400 micrograms per day of folic acid from fortified foods or supplements caused many scientists to be concerned with the potential health risk of unmetabolized folic acid since it is thought to aggravate pre-existing cancers. Accordingly, DFH has chosen not to add more synthetic folic acid into the diet, so we use a natural folate blend called NatureFolate™. NatureFolate™ is made from a concentrated vegetable juice powder containing a blend of natural folates, including 5-methyltetrahydrofolate (5-MTHF) and 5-formyltetrahydrofolate with additional fortified 5-formyltetrahydrofolate as calcium folinate. For more information and references, please see the *DFH Rationale for Replacing Folic Acid with NatureFolate™* available upon request.

## Vitamin B12: A Must Supplement for Strict Vegetarians

Vegetarians are particularly susceptible to low vitamin B12 levels, as B12 is the only B vitamin found exclusively in animal products. In particular, pregnant vegans need to supplement months prior to pregnancy, because pregnancy increases B12 requirements. Mothers undersupplied with B12 can have babies with neurological problems. Also, older adults are often low in vitamin B12. Vitamin B12 is also available in activated forms such as methylcobalamin.

## Biotin: Strengthening Nails and Balancing Blood Sugar

Biotin can help strengthen nails in humans by 25% in those with weak or brittle nails.<sup>16</sup> A high intake of biotin can improve blood sugar control in animal models of type II diabetes. By helping keep blood sugar and insulin lower, biotin may support weight loss.<sup>17</sup>

## Pantothenic Acid: For Stress and Wound Healing

Pantothenic acid, previously known as vitamin B5, is a member of the B complex family that helps immune function, energy generation, and the body's production of stress hormones.

## B Vitamin Contraindications

- **Niacin and Niacinamide:** Avoid both of these forms in high doses if you have jaundice, heart conditions including angina and rheumatic heart disease, ulcers, gastritis, renal failure, or gout.
- **Vitamin B6:** Do not take B6 with the drug levodopa, as it can inactivate it. Lactating women should not take more than 50 mg of B6 per day, as higher doses may suppress lactation.
- **Folate:** Avoid folate and folic acid supplements when taking the drug methotrexate for cancer.

## How to Take:

- As a dietary supplement, take one capsule per day, or as directed by a health care practitioner.

## References

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Supplement Facts		
Serving Size 1 capsule		
Amount Per Serving	% Daily Value	
Thiamin (Vitamin B-1)(as Thiamin HCl)	100 mg	6667%
Riboflavin (Vitamin B-2) (as Riboflavin and Riboflavin-5-Phosphate)	50 mg	2941%
Niacin (Vitamin B-3)(as Niacinamide)	50 mg	250%
Vitamin B-6 (as Pyridoxine HCl and Pyridoxal-5-Phosphate)	50 mg	2500%
Folate (NatureFolate™ blend)	200 mcg	50%
Vitamin B-12 (as Methylcobalamin)	250 mcg	4167%
Biotin (as d-Biotin)	2 mg	667%
Pantothenic Acid (as d-Calcium Pantothenate)	100 mg	1000%
Trimethylglycine (TMG)	200 mg	*
Choline Dihydrogen Citrate	100 mg	*

\*Daily Value not established.

**Other Ingredients:** Cellulose (capsule), silicon dioxide, vegetable stearate.

