



VITAMIN B-6 LIQUID

WITH CHELATED ZINC AND MAGNESIUM

118 ML LIQUID | NPN80092616 | V6B40Z-CN

Vitamin B6, zinc and magnesium are critical for numerous reactions that occur in the body. Lacking any of these critical nutrients can have far reaching consequences. Deficiency of Vitamin B6 is not uncommon due to poor diet, various medications, excessive alcohol intake and parasitic infections. Deficiency symptoms include dermatitis, cracked and sore lips, inflamed tongue and mouth, neuropathy, confusion, and insomnia.

Vitamin B6 serves as a coenzyme to four classes of enzymes. It combines with an alpha-amino acid to form a compound called a Schiff base, which is the substrate in four kinds of reactions: transamination (movement of amino groups), racemization (redistribution of enantiomers), decarboxylation (removing COOH groups), and various side-chain reactions depending on the enzyme involved. Vitamin B6, also called pyridoxine, is one of eight water-soluble B vitamins. Vitamin B6 is involved in the metabolism of protein and carbohydrates, the production of insulin and red and white blood cells, and the synthesis of neurotransmitters, enzymes, and prostaglandins. Vitamin B6 is essential in numerous biochemical pathways involving red blood cells, the immune system, central nervous system function, protein metabolism, homocysteine metabolism, and also the production of energy. Pyridoxine is an especially important vitamin for maintaining healthy nerve and muscle cells and it aids in the production of DNA and RNA, the body's genetic material. The human body needs vitamin B6 to make hemoglobin. Hemoglobin within red blood cells carries oxygen to tissues. Vitamin B6 also helps increase the amount of oxygen carried by hemoglobin. A vitamin B6 deficiency can result in a form of anemia that is similar to iron deficiency anemia. B6 is needed to make sphingomyelin and other sphingolipids and is also necessary for proper absorption of vitamin B12.

THE IMMUNE SYSTEM AND VITAMIN B6

Calories, protein, vitamins, and minerals are all important to the immune system because they promote the growth of white blood cells that directly fight infections. Vitamin B6 is very important to the immune system because of its involvement in protein metabolism and cellular growth. It helps maintain the health of lymphoid organs (thymus, spleen, and lymph nodes) that make our white blood cells. Animal studies show that a vitamin B6 deficiency can decrease antibody production and suppress the immune response.

HOMOCYSTEINE AND B6

B6 is needed for the synthesis of both cysteine and taurine in the homocysteine pathway by acting as a cofactor for the related enzymes. Methionine can be converted into cysteine, which is a component of the important antioxidant and protector glutathione. One enzyme needed for the direct synthesis of cysteine is B6 dependent, cystathionine beta synthase.

GLYCEMIC CONTROL AND B6

Vitamin B6 also helps maintain healthy blood glucose levels within a normal range. When caloric intake is low, the body needs vitamin B6 to help convert stored carbohydrate or other nutrients to glucose to maintain normal blood sugar levels.

CHRONIC B6 DEFICIENCY

Symptoms occur during later stages of deficiency, when intake has been very low for an extended time, and are very serious such as dermatitis (skin inflammation), glossitis (a sore, raw and reddened tongue), depression, confusion, and convulsions. Early detection makes more sense than waiting for clinical diagnosis. B6 deficiency can be easily assessed via organic acids testing using the Comprehensive Metabolic Profile offered by Designs for Health. Markers for deficiency are kynurenate and xanthurenate. Research demonstrates that high xanthurenate levels during pregnancy are a reliable indicator of gestational diabetes and for early detection of diabetes in men and women.

Some patients are known to be sensitive to consumption of MSG. Symptoms of monosodium glutamate sensitivity can include head-aches, weakness, stiffness, and heartburn, collectively known as the “Chinese Restaurant Syndrome.” These symptoms can be prevented by prior supplementation with vitamin B6. Researchers believe the beneficial effects are due to the correction of a deficiency in the activity of glutamic oxaloacetic transaminase, an enzyme that is dependent on pyridoxal phosphate.

MEDICATIONS, ALCOHOL AND B6

Older adults, and people that consume alcohol excessively, are more likely to have inadequate vitamin B6 intakes than other segments of the population, because they may have limited variety in their diet. Alcohol and smoking also promote the destruction and loss of vitamin B6 from the body. Alcohol abuse can result in neuropathy, causing abnormal nerve sensations in the arms and legs. Dietary supplements that include vitamin B6 may prevent or decrease its incidence. Vitamin B6 supplementation may be helpful for all types of neuropathy, including diabetic.

L-DOPA, which is used to treat a variety of neurologic problems such as Parkinson's disease, alters the activity of vitamin B6. Hydralazine and penicillamine inactivate B6, so long-term use can lead to deficiency as well. Asthmatic children treated with the medicine theophylline may need to take a vitamin B6 supplement. Theophylline decreases body stores of vitamin B6, and theophylline-induced seizures have been linked to low body stores of the vitamin.

Vitamin B-6 Liquid may be helpful for patients with high histamine (undermethylation) especially if used along with Homocysteine Supreme™ or SAME. It is also appropriate for patients with pyroluria (excessive pyrroles in the urine) and/or patients with high copper (hypercupremia). Hypercupremia is a common cause of depression in women.

MAGNESIUM

Magnesium is an essential mineral nutrient and is present in every cell type in every organism. Magnesium dependent enzymes appear in virtually every metabolic pathway. Magnesium is used as a signaling molecule, and much of nucleic acid biochemistry requires magnesium, including all reactions which require a release of energy from ATP. Many disease states are associated with low magnesium levels including diabetes, fibromyalgia, chronic fatigue syndrome, and congestive heart failure. CMP testing can show if a patient's magnesium needs are being insufficiently met.

ZINC

Zinc is needed for the proper functioning of over 40 enzymes in the body. For example, it is needed for the action of the delta 6 desaturase enzyme involved in fatty acid conversions. Deficiency of zinc can lead to an elevated ratio of linoleic to dihomo-gamma-linolenic acids (LA/DGLA). This can be detected and corrected with the Comprehensive Metabolic Profile (CMP). Designs for Health's Zinc Challenge is excellent for detecting zinc deficiency and for a quick assessment of dosing efficacy. Low zinc levels can lead to problems with appetite control, sense of taste and smell, ability to fight infections and protein utilization. Zinc supplementation is also often used to rid excess copper from body tissues. Zinc bis-glycinate chelate used in Vitamin B-6 Liquid meets the NNFA definition of a true mineral chelate.

VITAMIN B6 (50-200 MG) MAY HELP SUPPORT:

- Carpal Tunnel Syndrome
- Menopause
- Copper Toxicity
- Pyroluria
- Sideroblastic Anemia
- Seborrhoeic Dermatitis
- ADHD
- PMS
- Fatigue
- High Histamine
- High Homocysteine
- Cheilosis
- MSG Sensitivity

Medicinal Ingredients (per 1 tsp/5 ml):

Vitamin B6 (Pyridoxine hydrochloride, Pyridoxal 5'-phosphate)..... 50 mg
Magnesium (Magnesium aspartate) 30 mg
Zinc (Zinc bisglycinate) 5 mg

Non-Medicinal Ingredients: Glycerine, purified water, citric acid, raspberry flavour. **Recommended Dose:** Adults: Take 1 teaspoon (5 mL) per day, or as directed by your healthcare practitioner. Take with food, a few hours before or after taking other medications or natural health products.

REFERENCES

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