THORNE VET

SUPERIOR NUTRITIONAL SUPPORT FROM THE ENTIRE B VITAMIN COMPLEX

ThorneVet B ComplexVET

Comprehensive B Vitamin Support

Although each B vitamin is chemically distinct, the eight B vitamins often work synergistically in various biochemical functions throughout the body – from energy production, to red-blood-cell formation, to neurological function. Supplementing with a tissue-ready B vitamin complex is important for all companion animals, but especially for an animal who might be unable to convert a non-active B vitamin in the liver to the vitamin's active, tissue-ready form because of compromised liver function, poorly functioning enzymes, digestive dysfunction, poor diet, or age. Providing these B-vitamin cofactors in readily usable forms ensures the animal will receive the full complement of B vitamins.

B ComplexVET contains all eight water-soluble, essential B vitamins, plus the vitamin B "look-alike" – choline.

Key Nutitional Support Features

- Includes the bioactive, tissue-ready forms of vitamin B2, vitamin B6, folate, and vitamin B12
- Facilitates the body's processes for creating energy from digested food
- Supports cardiovascular function, neurological function, muscle function, and adrenal function
- Provide effective amounts of membrane phospholipids to stabilize neuronal membranes
- Reduces the negative effects of stress by supporting healthy adrenal gland function
- Enhances liver function, especially detoxification, antioxidant function, and red blood cell formation

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B ComplexVET – Special Nutrients

Thiamin

Thiamin, also known as Vitamin B1, is critical to the process of converting carbohydrates into energy because Thiamin is an essential co-factor in metabolizing glucose. Thiamin also plays a key role in heart, muscle, and neurological function because it facilitates the flow of electrolytes (especially potassium, calcium, and sodium) into and out of the cells of the heart, nerves, and muscles.

Riboflavin (as readily usable Riboflavin 5'-Phosphate)

Riboflavin, also known as Vitamin B2, helps break down fats and glucose, thus playing a vital role in energy production. Riboflavin also helps maintain mucous membranes in the digestive system, helps maintain healthy liver function, converts tryptophan into niacin, supports nerve, muscle, and eye health, plays a role in the synthesis of red blood cells, and moderates stress by supporting healthy adrenal gland function.

Many supplements contain Vitamin B2 as Riboflavin; but to be utilized by the body, the body must convert Riboflavin into its active form – Riboflavin 5'-Phosphate. However, if an animal has a compromised digestive system, then it can adversely affect its ability to convert Riboflavin into Riboflavin 5'-Phosphate. The Riboflavin 5'-Phosphate in B ComplexVET provides Vitamin B2 supplementation with this bioactive, tissue-ready form of Riboflavin that can be optimally utilized in the animal's body.

Niacin and Niacinamide

Niacin and Niacinamide – which are two different forms of Vitamin B3 – both have antioxidant activity, so they can reduce oxidative stress by inhibiting free radical formation. When creating energy from digested food, Niacin and Niacinamide also create two beneficial coenzymes known as **NAD+** and **NADH**. **NAD+** and **NADH** are needed for the chemical reactions that all cells – especially skin cells – must undergo to repair damage, propagate, and function normally. Thus, these two forms of Vitamin B3 support skin health by helping to improve skin tone and strengthening weakened skin surfaces.

Pantothenic Acid

Pantothenic Acid, also known as Vitamin B5 – like the other essential B vitamins – helps convert digested food into energy. In addition, Pantothenic Acid is the starting material for the synthesis of Coenzyme A, the key substrate that is required by the adrenal glands to make the adrenal hormones – thus facilitating the optimal functioning of the adrenal glands. Other important functions of Pantothenic Acid include its required presence for making new red blood cells and for breaking down cholesterol.

Vitamin B6 (as readily usable Pyridoxal 5'-Phosphate)

Pyridoxal 5'-Phosphate is Vitamin B6 in its most bioactive and readily usable form. Vitamin B6 is necessary for the transformation and utilization of amino acids in many functions in an animal's body, including the production of energy and the synthesizing of important neurotransmitters used in the brain. Pyridoxal 5'-Phosphate is also necessary for the recycling of **Homocysteine** – an amino acid that can be potentially harmful to the cardiovascular system when there is too much of it – by facilitating its break-down into two benign and beneficial amino acids – **Taurine** and **Cysteine**. Pyridoxal 5'-Phosphate is also involved in the animal's production of **hemoglobin** (the protein responsible for transporting oxygen in the blood), **intrinsic factor** (a substance secreted in the stomach that enables the body to absorb Vitamin B12), and its presence is vital for the formation of the **myelin sheath** that surrounds nerve cells (which allows electrical impulses to be transmitted quickly and efficiently along the nerve cells).

If Vitamin B6 is supplemented as **Pyridoxine** – the form used in many B complex supplements – then to be used by the body **Pyridoxine** must first be converted into Pyridoxal 5'-Phosphate. Some animals who have compromised liver function have difficulty converting **Pyridoxine** to Pyridoxal 5'-Phosphate, and therefore these animals can be at risk of a Vitamin B6 deficiency. Supplementing with Pyridoxal 5'-Phosphate ensures that the bioactive, tissue-ready form of Vitamin B6 will be available and utilized.

Folate (as readily usable L-5-Methyltetrahydrofolate – or 5-MTHF)

In addition to converting carbohydrates into energy, Folate helps to produce new **DNA** and **RNA**, as well as helping to make red and white blood cells in the bone marrow. Especially in animals who might have liver or intestinal issues, this readily usable, methylated form of Folate – 5-MTHF – is essential for cardiovascular health and nervous system health, as well as optimal liver detoxification. Acting in concert with Vitamin B12, 5-MTHF functions as a methyl-group donor – methyl-group donation by B vitamins is vital to numerous biochemical conversion processes, including the production of **DNA**, **serotonin**, and **melatonin**.

Vitamin B12 (as readily usable Methylcobalamin)

By being a tissue-ready methyl-group donor, this biologically active form of Vitamin B12 is essential for supporting the healthy methylation processes involved in cardiac function, red blood cell formation, and nerve function. Methylcobalamin is the biologically active form of Vitamin B12, which the body uses much more efficiently than the inactive form of Vitamin B12 – **Cyanocobalamin** – the form used in many B complex supplements. The cyanide molecule in **Cyanocobalamin** must first be "detached" in the liver, and then be replaced with a methyl group, to make the tissue-ready form of Vitamin B12 the body actually uses – Methylcobalamin.

Biotin

Biotin, also known as Vitamin B7, does much more than s**timulate hair growth** – causing the coat to thicken and appear more lustrous – and **promote skin health**. Biotin is also used by multiple enzymes to convert the carbohydrates, fatty acids, and proteins an animal eats into needed energy. Biotin also plays a role in **gene regulation** – the process that controls how genes are expressed, and cell signaling – the process that coordinates the actions of all the various cell types in the body.

Choline

Choline – not officially a B vitamin but usually grouped with them – is needed to form the membranes that surround every cell in the body. The body converts choline into neurotransmitters, which enables the brain and the nervous system to regulate automatic body functions like breathing, heart rate, and muscle control. Choline is also needed to metabolize fats into energy. Along with folate, biotin, and vitamin B12, choline facilitates **gene expression**, the body's complex and intricate process by which information from genes is utilized to make the various cell types in the body uniquely specialized to do their job – like liver cells, kidney cells, and heart cells.

B ComplexVET
Comprehensive B Vitamin Support

1/4 soft chew daily

1 soft chew per 25 pounds of body weight daily

VB104-SC / 60 Soft Chews

PRODUCT FACTS

Active Ingredients per 2-gram Soft Chew:	
Niacinamide (Vitamin B3)	130 mg
Calcium Pantothenate (Vitamin B5)	120 mg
Thiamin (Thiamin HCl) (Vitamin B1)	110 mg
Choline Citrate	80 mg
Riboflavin 5'-Phosphate (Vitamin B2)	18.2 mg
Pyridoxal 5'-Phosphate (Vitamin B6)	10 mg
Niacin (Vitamin B3)	10 mg
Biotin	400 mcg
Folate (as L-5-Methyltetrahydrofolic Acid Glucosamine Salt)†	400 mcg
Methylcobalamin (Vitamin B12)	400 mcg

Inactive ingredients (soft chew matrix):
Arabic gum, buffered white distilled vinegar, chick pea flour, chicory root, citric acid, coconut glycerin, coconut oil, guar gum, natural hickory smoke flavor, rosemary extract, sunflower lecithin, sunflower oil, tapioca starch.

†This product uses Gnosis S.p.A.'s L-5-Methyltetrahydrofolic Acid, Glucosamine Salt (Quatrefolic®). Quatrefolic is a registered trademark of Gnosis S.p.A.

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