

## B Complex with Metafolin®

### DESCRIPTION

B Complex with Metafolin®, manufactured by Douglas Laboratories, is a comprehensive B supplement providing essential B vitamins and intrinsic factor, a nutrient necessary for optimal vitamin B12 absorption. B Complex with Metafolin® is unique among other B complex vitamins as it contains Metafolin®, a patented, natural form of (6S) 5-methyltetrahydrofolate (5-MTHF).

### FUNCTIONS

As co-enzymes, the B vitamins are essential components in most major metabolic reactions. They play an important role in energy production, including the metabolism of lipids, carbohydrates, and proteins. B vitamins are also important for blood cells, hormones, and nervous system function. As water-soluble substances, B vitamins are not generally stored in the body in any appreciable amounts (with the exception of vitamin B-12). Therefore, the body needs an adequate supply of B vitamins on a daily basis.

Thiamin, riboflavin, and niacin are all essential coenzymes in energy production. Thiamin is converted quickly into thiamin pyrophosphate, which is required for glycolytic and Krebs cycle reactions. Thiamin also appears to be related to nerve impulse transmission. Riboflavin is a component of the coenzymes FAD and FMN, which are intermediates in many redox reactions, including energy production and cellular respiration reactions. Niacin is also a component of the coenzymes NAD and NADP, which are involved in energy production, as well as biosynthetic processes.

Vitamin B-6 is a coenzyme in amino acid metabolism. It is necessary for the metabolism of homocysteine and the conversion of tryptophan into niacin. Vitamin B-6 dependent enzymes are also needed for the biosynthesis of many neurotransmitters, including serotonin, epinephrine, and norepinephrine. Methylcobalamin (vitamin B-12) and folate are coenzymes in DNA and RNA metabolism. Both of these B vitamins assist in homocysteine metabolism. Folate serves as a methyl donor and methylcobalamin as a coenzyme in the conversion of homocysteine to methionine. Studies indicate that methylcobalamin, a coenzyme form of B12, may be better utilized and better retained in the body. Metafolin® is a patented, natural form of (6S) 5-methyltetrahydrofolate (5-MTHF). 5-MTHF is the naturally occurring, predominant form of folate commonly found in cells and is essential for overall health, as it participates as a cofactor in a reaction that involves the remethylation of homocysteine to methionine. Unlike synthetic folic acid, 5-MTHF can be used directly by the body, without the need for an additional conversion via the enzyme (5,10-methylenetetrahydrofolate reductase (MTHFR)). In certain populations, the body's ability to convert folic acid to 5-MTHF by use of this enzyme may be compromised due to genetic differences. Metafolin® contains only the S isomer of 5-MTHF and has been shown to be the only form of folate to be able to cross the blood-brain barrier.

Biotin and pantothenic acid are also coenzymes essential for energy production from dietary fats, carbohydrates, and proteins. Pantothenic acid is a component of coenzyme A and of phosphopantetheine, and is therefore essential for Krebs cycle operation. Biotin is involved in many carboxylation reactions associated with gluconeogenesis, the Krebs cycle, and fatty acid synthesis.

Intrinsic factor is a protein produced by cells in the stomach lining. It is needed by the intestines to absorb vitamin B12 efficiently. A deficiency of intrinsic factor can lead to vitamin B12 deficiency. Certain populations, including the elderly and those unable to effectively produce intrinsic factor, can be more susceptible to B12 deficiency.

### INDICATIONS

B Complex with Metafolin® may be useful for individuals who want to supplement with a complete array of B vitamins and related nutrients.

### FORMULA (#200765)

One vegetarian capsule contains:

Thiamine .....	50 mg
(Vitamin B-1, as thiamine HCL)	
Riboflavin .....	20 mg

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(Vitamin B-2, Riboflavin-5-Phosphate)	
Niacin .....	50 mg
(Vitamin B-3, as Niacinamide)	
Vitamin B-6 .....	20 mg
(as Pyridoxal-5 Phosphate)	
Folate (as 5-MTHF, Metafolin®) .....	400 mcg
Vitamin B-12 (as methylcobalamin)...	500 mcg
Biotin.....	300 mcg
Pantothenic Acid.....	50 mg
(Vitamin B-5, as d-calcium pantothenate)	
Intrinsic Factor (from porcine).....	20 mg

### SUGGESTED USE

Adults take 1 capsule, one to two times daily or as directed by a healthcare professional.

### SIDE EFFECTS

No adverse side effects have been reported.

### STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

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## **B Complex with Metafolin®**

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† These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.

Manufactured by  
Douglas Laboratories  
600 Boyce Road  
Pittsburgh, PA 15205  
800-245-4440  
[douglaslabs.com](http://douglaslabs.com)



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