

Methylation Basics



DESCRIPTION

The health of the methylation process depends on the health of the folate cycle. Because multiple roadblocks to healthy methylation may exist, Methylation Basics provides the most active and bioavailable forms of its ingredients to support the provision of methyl groups and the re-methylation of homocysteine to methionine.

FUNCTIONS

Methylation is becoming one of the most recognized, foremost approaches to supporting overall health. From the brain to the cardiovascular system, from detoxification capabilities to energy production, the accessibility of methyl groups is essential to health. Methylation is the addition or removal of a methyl group to a compound. Hundreds of our body's reactions can be called "methylation reactions." Because methyl groups serve such an important function, it is believed that methylation plays a central role in biochemical processes at the cellular level. Methylation can be impaired by decreased MTHFR enzyme activity, which can lead to impaired folate metabolism and a negatively impacted folate cycle. Lifestyle choices (alcohol, diet, etc.), medications and diseases can all interfere with folate metabolism and the methylation cycle. Reduced activity of the MTHFR enzyme may result in decreased concentrations of folate, specifically in the active form in RBCs and in serum plasma. Reduced MTHFR activity may also result in increased plasma homocysteine levels. 5-MTHF is the active form of folate that the body uses to help re-methylate homocysteine into methionine.

Methylation has a primary role in phase 2 of the body's detoxification process, as it converts toxins from their less soluble, insoluble and fat soluble forms into water soluble compounds, allowing for excretion. Methylation helps to remove excess hormones, neurotransmitters, and of course, homocysteine. Folate is necessary for the body to properly synthesize serotonin, epinephrine and dopamine. When 5-MTHF is not present, depression may result, due to a decrease in both SAME and neurotransmitter levels in cerebrospinal fluid. Coenzyme Q10 is critical to our body's energy production process. Statin drugs can assist in the decline of CoQ10 levels in the body. Patients taking statins should place particular value on their ability to effectively methylate, to ensure their ability to synthesize CoQ10 remains intact. When folate conversion and methylation are impaired, the inability to recycle homocysteine can give rise to cardiovascular disease.

Looking at the Methylation Basics formula, we find vitamin

B2, which helps the body convert other B vitamins for use, and is critical for the utilization of B6 and folate. B2 supports methylation by supporting those conversions and also supports growth, RBC formation and normal levels of homocysteine. Vitamin B6 is a required element of the folate cycle. Vitamin B6 is needed for more than 100 enzymatic reactions in the body, and is required for normal brain function, nerve function and the synthesis of certain neurotransmitters and lipids that are part of the myelin sheath. The folate provided in Methylation Basics is 5-MTHF derived from 5,000 mcg of Quatrefolic, a 5-MTHF glucosamine salt. 5-MTHF is a critical component of healthy methylation especially as a donor of methyl groups to homocysteine to produce methionine. The vitamin B12 found in Methylation Basics is methylcobalamin, the active form of B12. It does not have to be converted to be able to work in the body. Trimethylglycine (TMG) is known for supporting the body's natural production of SAME, which is important for normal mood balance. Betaine, as TMG, is important for liver health as it is able to donate methyl groups during phase 2 conjugation. Those toxins solubilized by TMG include homocysteine, heavy metals and excess neurotransmitters.

INDICATIONS

Methylation Basics may be a useful dietary adjunct for those individuals concerned with healthy aging, support for cognitive health, general cardiovascular support and overall vascular health.

FORMULA (WW #10367)

One Capsule Contains:

| | |
|--|---|
| Riboflavin..... | 25 mg |
| Vitamin B6 (as pyridoxal 5-phosphate)..... | 50 mg |
| Folate | 2,500 mcg (as 5-MTHF from 5,000 mcg of 5-MTHF glucosamine) |
| Vitamin B12 (as methylcobalamin) | 1,000 mcg |
| Trimethylglycine (betaine anhydrous) | 500 mg |
| Other Ingredients: Hypromellose (capsule), microcrystalline cellulose, vegetarian leucine. | |

SUGGESTED USE

As a dietary supplement, adults take 1 capsule daily, or as directed by a healthcare professional.

Continued on following page

SIDE EFFECTS

Warning: If pregnant or nursing, consult your healthcare practitioner.

STORAGE

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

REFERENCES

Stein, Traci. A Genetic Mutation That Can Affect Mental & Physical Health. *Psychology Today*. September 5, 2014.

The methylation, neurotransmitter, and antioxidant connections between folate and depression. *Alternative Medicine Review* 2015;13(3):216-26.

Morris M. Homocysteine and Alzheimer's disease. *The Lancet Neurology*. 2003;2(7):425-428

Kim JM, Stewart R, Kim SW, et al. Predictive value of folate, vitamin B12 and homocysteine levels in late life depression. *Br J Psychiatry* 2008; 192;268-274.

Mancuso M, Orsucci D, Calsolaro V, Choub A, Siciliano G. Coenzyme Q10 and Neurological Diseases. *Pharmaceuticals* 2009;2(3):134-149.

Olthof M, Vliet T, Boelsma E, Verhoef P. Low Dose Betaine Supplementation Leads to Immediate and Long Term Lowering of Plasma Homocysteine in Healthy Men and Women. *The Journal of Nutrition* 2003;133(12):4135-4138.

Olthof M, Verhoef P. Effects of betaine intake on plasma homocysteine concentrations and consequences for health. *Curr Drug Metab*. 2005 Feb;6(1):15-22

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 For:

Fireside Pharmacy
73847 Hwy III
Palm Desert, CA 92260
760.346.1113