Enhanced B Complex – Biologically Active with Quatrefolic[®] Folate About Enhanced B Complex Quick Tips for

- Enhanced B Complex is a one-per-day formula providing full-spectrum B vitamins in their most metabolically active forms.
- B vitamins are cofactors for many important mechanisms in the body, including nutrient metabolism, energy production, growth and development, and liver function.
- B vitamins also help support immunity, red blood cell production, iron metabolism, and healthy skin, hair, and nails.
- Enhanced B Complex provides Quatrefolic folate, also known as (6S)-5-methyltetrahydrofolate acid (MTHF). This is the active form of folate at the cellular level found in circulation and the only form able to cross the blood-brain barrier. Some people have a genetic variant in the MTHFR gene that slows down the conversion to the active form of folate, a step this active form of folate bypasses.^{1–4}
- Vitamin B1 is provided as benfotiamine, a lipid-soluble bioavailable form of this B vitamin, shown to be both safe and able to support glucose metabolism.^{5,6}
- Enhanced B Complex provides the biologically active form of other B vitamins, such as B2 and B6 as riboflavin 5'-phosphate and pyridoxal 5'-phosphate (PLP), as well as a full complement of B vitamins, including methylcobalamin (B12), B3, B5, choline, biotin, and inositol.

How to Use Enhanced B Complex

• Take 1 capsule per day with food or as directed by a health care practitioner.

Cautions and Contraindications

• No significant contraindications. Keep out of reach of children.

Drug Interactions

Although several classes of drugs, such as aminoglycosides, anticonvulsants, bile acid sequestrants, proton pump inhibitors, antihyperglycemic medications (metformin), and acne therapy (isotretinoin) are known to either interfere with B12 absorption or function, there are no known negative interactions caused by B12 supplementation with any medications.⁷⁻⁹ Metformin has been shown to deplete B12 and folate, and supplementation with only B12 in diabetics may be preferable.¹⁰

PATIENT NAME:

PRACTITIONER NOTES:

Quick Tips for Optimal Health

- B vitamins cannot be synthesized in the body and, therefore, need to be obtained from dietary or supplemental sources. In general, whole grains, fruits, and vegetables are the best sources of most B vitamins.
- □ B12 is not found in any plant-based foods unless it has been specifically fortified. People consuming a completely plant-based diet need to ensure they are supplementing with B12 to avoid a deficiency.¹¹
- ☐ B vitamin supplementation has been associated with the prevention of cognitive decline, and adequate intake may be particularly important for people with an elevated homocysteine level.¹²
- Because B vitamins are involved in so many enzymatic processes, lower intake of these vitamins has been associated with a wide range of conditions. For example, lower intake of B1, B2, B6, and B12 has been associated with a greater risk of low mood.¹³
- Genetics may also influence the optimal amount and form of each B vitamin necessary; for example, a higher dose or more bioavailable forms of folic acid and riboflavin may be helpful for people with a genetic variant in the MTHFR gene.
- Riboflavin supplementation has been shown to improve blood pressure more effectively in people with a variant in the MTHFR gene.¹⁴
- Homocysteine, a cardiovascular risk factor, is also not reduced as effectively with the standard form of folic acid supplementation among people with a variant in the MTHFR gene.¹⁵

PRACTITIONER CONTACT INFORMATION:

This information is for educational purposes only, and is not intended for self-diagnosis or self-treatment of conditions that should be assessed and treated by your health care practitioner. This product is not intended to rain to a self-treatment of conditions that should be assessed and treated by your health care practitioner. This product is not intended



228646

References

- 1. Miraglia, N., Agostinetto, M., Bianchi, D., et al. (2016). Enhanced oral bioavailability of a novel folate salt: Comparison with folic acid and a calcium folate salt in a pharmacokinetic study in rats. *Minerva Ginecol, 68*(2), 99-105.
- 2. Prinz-Langenohl, R., Brämswig, S., Tobolski, O., et al. (2009). [65]-5-methyltetrahydrofolate increases plasma folate more effectively than folic acid in women with the homozygous or wild-type 677C-->T polymorphism of methylenetetrahydrofolate reductase. Br J Pharmacol, 158(8), 2014-21.
- 3. Bailey, S.W., & Ayling, J.E. (2018). The pharmacokinetic advantage of 5-methyltetrahydrofolate for minimization of the risk for birth defects. Sci Rep, 8(1), 4096.
- 4. Sicińska, E., Brzozowska, A., Roszkowski, W., et al. (2018). Supplementation with [65]-5-methyltetrahydrofolate or folic acid equally reduces serum homocysteine concentrations in older adults. Int J Food Sci Nutr, 69(1), 64-73.
- 5. Sheng, L., Cao, W., Lin, P., et al. (2021). Safety, tolerability and pharmacokinetics of single and multiple ascending doses of benfotiamine in healthy subjects. Drug Des Devel Ther, 15, 1101-10.
- 6. Bhawal, R., Fu, Q., Anderson, E.T., et al. (2021). Serum metabolomic and lipidomic profiling reveals novel biomarkers of efficacy for benfotiamine in Alzheimer's disease. Int J Mol Sci, 22(24), 13188.
- 7. McColl, K.E. (2009). Effect of proton pump inhibitors on vitamins and iron. Am J Gastroenterol, 104(2), S5-9.
- 8. Aslan, K., Bozdemir, H., Unsal, C., et al. (2008). The effect of antiepileptic drugs on vitamin B12 metabolism. Int J Lab Hematol, 30(1), 26-35.
- 9. Karadag, A.S., Tutal, E., Ertugrul, D.T., et al. (2011). Effect of isotretinoin treatment on plasma holotranscobalamin, vitamin B12, folic acid, and homocysteine levels: Non-controlled study. Int J Dermatol, 50(12), 564-9.
- 10. Xu, L., Huang, Z., He, X., et al. (2013). Adverse effect of metformin therapy on serum vitamin B12 and folate: Short-term treatment causes disadvantages? Med Hypotheses, 81(2), 149-51.
- 11. Selinger, E., Kühn, T., Procházková, M., et al. (2019). Vitamin B12 deficiency Is prevalent among Czech vegans who do not use vitamin B12 supplements. Nutrients, 11(12), 3019.
- 12. Wang, Z., Zhu, W., Xing, Y., et al. (2022). B vitamins and prevention of cognitive decline and incident dementia: A systematic review and meta-analysis. Nutr Rev, 80(4), 931-49.
- 13. Wu, Y., Zhang, L., Li, S., et al. (2022). Associations of dietary vitamin B1, vitamin B2, vitamin B6, and vitamin B12 with the risk of depression: A systematic review and meta-analysis. Nutr Rev, 80(3), 351-66.
- 14. McNulty, H., Strain, J.J., Hughes, C.F., et al. (2017). Riboflavin, MTHFR genotype and blood pressure: A personalized approach to prevention and treatment of hypertension. Mol Aspects Med, 53, 2-9.
- 15. Huang, X., Qin, X., Yang, W., et al. (2018). MTHFR gene and serum folate interaction on serum homocysteine lowering: Prospect for precision folic acid treatment. Arterioscler Thromb Vasc Biol, 38(3), 679-85.