

Methylation Complete™

Complete Bioactive B-Vitamins Support*

A246 30 DISSOLVABLE TABLETS & 120 DISSOLVABLE TABLETS

CLINICAL APPLICATIONS

- Supports optimal cellular energy and repair
- Promotes healthy gene expression in the presence of certain polymorphisms
- Promotes cognitive function and neurotransmitter synthesis
- Helps maintain cofactors and enzymes associated with the methylation cycle
- Promotes a healthy mood and sleep cycle

Methylation Complete™ is a formula uniquely targeted to promote optimal cellular functioning and maximize the efficiency of the methylation cycle.* It provides highly bioavailable synergistic forms of vitamin B6 as pyridoxal-5-phosphate (P5P), folate as L-methylfolate, and vitamin B12 as methylcobalamin and hydroxycobalamin.

These sublingual tablets are highly bioavailable and designed to bypass the stomach. **Methylation Complete™** is ideal for:*

- Individuals who may benefit from additional cellular, neurological, and cognitive support
- Those with certain genetic polymorphisms including MTHFR, MTHFD1, FOLR1, FOLR2, MTRR and DHFR
- Certain populations at risk for vitamin B12 or folate deficiencies or insufficiencies; these include older adults, those with pernicious anemia, strict vegetarians and vegans, and certain pregnant and lactating individuals
- Individuals who struggle with absorption and/or compliance with capsules, such as those with conditions affecting intrinsic factor levels, individuals who have undergone bariatric surgery, and those with gastrointestinal and malabsorption conditions

DISCUSSION

Methylation refers to the movement of a methyl group through key biochemical pathways and is critical for DNA synthesis and repair, nerve cell structure and function, and optimal cellular energy metabolism.¹ Methylation also influences epigenetics—differences in gene expression based on changes in the DNA molecule that do not alter the sequence—which can potentially lead to different health outcomes.² Many genetic polymorphisms the body's ability to optimize the methylation cycle.

This can have many downstream effects, potentially influencing cardiovascular risk and other major body systems.³

INGREDIENT HIGHLIGHTS

Vitamin B6 as pyridoxal-5-phosphate (P5P)

Vitamin B6, or pyridoxine, is metabolized in the body into its active coenzyme form, P5P (also known as PLP). P5P is integral to the synthesis of neurotransmitters, amino acids, and many proteins within the body. It also helps support the cellular uptake of magnesium⁴ and promotes endogenous glutathione synthesis and antioxidative status.⁵ Lowered B6 status has been associated with increased risk of certain mood disorders including anxiety and depression.⁶ Clinical studies have reported improvements in mood health and stress responses in the presence of vitamin B6 supplementation.^{4,6,7}

Folate as L-methylfolate

Folate, or vitamin B9, is essential for the methylation cycle, cellular energy metabolism, cellular repair, healthy fetal development, and neurological function. It works synergistically with vitamin B12 to support the methylation cycle. Clinical studies have observed improvements in DNA methylation, particularly in genes related to neurodevelopment, in the presence of folate supplementation.⁸

Vitamin B12 as methylcobalamin and hydroxycobalamin

Over 20 genes participate in the absorption, transport, and utilization of vitamin B12 (cobalamin) from dietary sources.¹ Vitamin B12 is the only water-soluble vitamin stored in the body; because of this, deficiencies may not present for years.⁹ Vitamin B12 is critical for the functioning of enzymes involved in the transformation of homocysteine to methionine



Vegetarian



Gluten-Free



Non-GMO

S-adenosylmethionine (SAM). SAM is a universal methyl donor for DNA, RNA, epinephrine, creatine, lipids, and proteins in the body.¹ Myelin synthesis, erythropoiesis, and DNA synthesis and repair are influenced by SAM and its metabolites.^{1,10} Additionally, evidence suggests that vitamin B12 may also support detoxification pathways.¹¹

RECOMMENDED USE:

Place one tablet under the tongue or let it dissolve in the mouth twice daily - one tablet in the AM and one tablet in the PM, two to three hours before bedtime. Allow 1-3 minutes for tablet to dissolve.

REFERENCES

1. Froese DS, Fowler B, Baumgartner MR. Vitamin B 12 , folate, and the methionine remethylation cycle—biochemistry, pathways, and regulation. *J Inherit Metab Dis*. 2019;42(4):673-685. doi:10.1002/jimd.12009
2. Poursafa P, Kamali Z, Fraszczyk E, Boezen HM, Vaez A, Snieder H. DNA methylation: a potential mediator between air pollution and metabolic syndrome. *Clin Epigenetics*. 2022;14(1):82. doi:10.1186/s13148-022-01301-y
3. Guéant JL, Guéant-Rodriguez RM, Oussalah A, Zuily S, Rosenberg I. Hyperhomocysteinemia in Cardiovascular Diseases: Revisiting Observational Studies and Clinical Trials. *Thromb Haemost*. 2023;123(03):270-282. doi:10.1055/a-1952-1946
4. Pouteau E, Kabir-Ahmadi M, Noah L, et al. Superiority of magnesium and vitamin B6 over magnesium alone on severe stress in healthy adults with low magnesemia: A randomized, single-blind clinical trial. Song Y, ed. *PLOS ONE*. 2018;13(12):e0208454. doi:10.1371/journal.pone.0208454
5. Hodges RE, Minich DM. Modulation of Metabolic Detoxification Pathways Using Foods and Food-Derived Components: A Scientific Review with Clinical Application. *J Nutr Metab*. 2015;2015:1-23. doi:10.1155/2015/760689
6. MahdaviFar B, Hosseinzadeh M, Salehi-Abargouei A, Mirzaei M, Vafa M. Dietary intake of B vitamins and their association with depression, anxiety, and stress symptoms: A cross-sectional, population-based survey. *J Affect Disord*. 2021;288:92-98. doi:10.1016/j.jad.2021.03.055
7. Ghavidel-Parsa B, Naeimi A, Gharibpoor F, et al. Effect of vitamin B6 on pain, disease severity, and psychological profile of fibromyalgia patients; a randomized, double-blinded clinical trial. *BMC Musculoskelet Disord*. 2022;23(1):664. doi:10.1186/s12891-022-05637-7
8. Ondičová M, Irwin RE, Thursby SJ, et al. Folic acid intervention during pregnancy alters DNA methylation, affecting neural target genes through two distinct mechanisms. *Clin Epigenetics*. 2022;14(1):63. doi:10.1186/s13148-022-01282-y
9. Hunt A, Harrington D, Robinson S. Vitamin B12 deficiency. *BMJ*. 2014;349(sep04 1):g5226-g5226. doi:10.1136/bmj.g5226
10. Cavalcoli F, Zilli A, Conte D, Massironi S. Micronutrient deficiencies in patients with chronic atrophic autoimmune gastritis: A review. *World J Gastroenterol*. 2017;23(4):563. doi:10.3748/wjg.v23.i4.563
11. Sun WL, Hua S, Li XY, Shen L, Wu H, Ji HF. Microbially produced vitamin B12 contributes to the lipid-lowering effect of silymarin. *Nat Commun*. 2023;14(1):477. doi:10.1038/s41467-023-36079-x

SUPPLEMENT FACTS

Serving Size: 1 Tablet
Servings Per Container: 120

	Amount Per Serving	%DV
Vitamin B6 (as Pyridoxal-5-Phosphate)	2 mg	118%
Folate (as L-Methylfolate Calcium & Quatrefolic®†† L-Methylfolate Glucosamine)	5440 mcg DFE	1360%
Vitamin B12 (as Methylcobalamin and Hydroxycobalamin)	7000 mcg	291667%

Other Ingredients: Sorbitol, mannitol, natural fruit punch flavor, croscarmellose sodium, stearic acid, silicon dioxide, and ascorbyl palmitate.

†† As Quatrefolic®. Quatrefolic® is trademarked by Gnosis S.p.A. Patent No. 7,947,662.



SUPPLEMENT FACTS

Serving Size: 1 Tablet
Servings Per Container: 30

	Amount Per Serving	%DV
Vitamin B6 (as Pyridoxal-5-Phosphate)	2 mg	118%
Folate (as L-Methylfolate Calcium & Quatrefolic®†† L-Methylfolate Glucosamine)	5440 mcg DFE	1360%
Vitamin B12 (as Methylcobalamin and Hydroxycobalamin)	7000 mcg	291667%

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*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any diseases.