



Dopa Factors

Serving Size 2 Capsules
Servings Per Container 30

	Amount Per Serving
Folate (as L-5-MTHF glucosamine salt)(Quatrefolic®)	100 mcg
Velvet bean seed extract (<i>Mucuna pruriens</i>)(providing 60 mg L-DOPA)	300 mg
N-acetyl L-tyrosine	300 mg
Green tea leaf extract (<i>Camellia sinensis</i>)(75% catechins)	50 mg
Alpha R-lipoic acid	10 mg

OTHER INGREDIENTS: Rice flour, hypromellose, medium chain triglycerides, calcium silicate, silica.

SUGGESTED USE: As a dietary supplement, take 2 capsules per day or as directed by your healthcare professional.

REFERENCES:

1. De Araújo DP, Lobato Rde F, Cavalcanti JR, et al. The contributions of antioxidant activity of lipoic acid in reducing neurodegenerative progression of Parkinson's disease: a review. *Int J Neurosci*. 2011 Feb;121(2):51-7.
2. Klawans HL, Ringel SP, Shenker DM. Failure of vitamin B6 to reverse the L-dopa effect in patients on a dopa decarboxylase inhibitor. *J Neurol Neurosurg Psychiatry*. 1971 December; 34(6): 682-686.
3. Levites Y, Weinreb O, Maor G, et al. Green tea polyphenol (-)-epigallocatechin-3-gallate prevents N-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced dopaminergic neurodegeneration. *J Neurochem*. Sep 2001;78(5):1073-82.
4. Manyam BV, Dhanasekaran M, Hare TA. Neuroprotective effects of the antiparkinson drug *Mucuna pruriens*. *Phytother Res*. 2004 Sep;18(9):706-12.
5. Miller, AL. The methylation, neurotransmitter, and antioxidant connections between folate and depression. *Alt Med Rev*. 2008;13(3):216-26.

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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.

DOPA FACTORS

BOTANICAL EXTRACTS, ANTIOXIDANTS, AND 5-MTHF TO SUPPORT HEALTHY LEVELS OF NEUROTRANSMITTERS WHICH MAY BE DEPLETED BY STRESS AND A HECTIC LIFESTYLE*

- Contains velvet bean extract (*Mucuna pruriens*) standardized to provide 60 mg of L-DOPA per serving
- Added neuroprotection from green tea leaf extract and alpha R-lipoic acid*
- Contains Quatrefolic®, the glucosamine salt form of L-5-MTHF for enhanced solubility and activity*

VELVET BEAN (*MUCUNA PRURIENS*) is a tropical legume that naturally contains L-DOPA, a precursor to the neurotransmitter dopamine. Dopamine is a neurotransmitter in the brain that is responsible for reward-driven learning and motor planning. Every type of reward that has been studied increases the level of dopamine transmission in the brain, and a variety of addictive drugs including stimulants such as cocaine, amphetamine, and methamphetamine act directly on the dopamine system.*

Dopamine is produced by neurons clustering in an area of the midbrain known as the substantia nigra. Dopamine cannot cross the blood-brain barrier, so it must be made in the brain in order to have its effects. L-DOPA, the immediate precursor to dopamine, is able to cross the blood-brain barrier. However, it can also be converted to dopamine in the periphery of the body and then be blocked from entering the brain. This conversion, in both the periphery and the brain, uses the enzyme DOPA decarboxylase, with vitamin B6 as a cofactor. When vitamin B6 has been given concomitantly with L-DOPA, it has accelerated the peripheral conversion of L-DOPA to dopamine, thereby negating the effects of giving L-DOPA in the first place. For this reason, this supplement does not contain vitamin B6.*

5-MTHF GLUCOSAMINE SALT: The active form of folate, L-5-methyltetrahydrofolate, is involved in neurotransmitter synthesis and critical enzymatic reactions throughout the body. 5-MTHF is crucial for the conversion of L-tyrosine to L-DOPA because it is involved in both the synthesis and regeneration of BH4, or tetrahydrobiopterin, an essential cofactor in the conversion of L-tyrosine to L-DOPA.*

QUATREFOLIC® is the glucosamine salt of L-5-methyltetrahydrofolate and is the fourth and newest generation of activated folic acid. The glucosamine salt form has been found to be

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REFERENCES:

6. Tan EK, Cheah SY, Fook-Chong S, et al. Functional COMT variant predicts response to high dose pyridoxine in Parkinson's disease. *Am J Med Genet B Neuropsychiatr Genet.* 2005 Aug 5;137B(1):1-4.

7. Zhu QY, Huang Y, Tsang D, et al. Regeneration of alpha-tocopherol in human low-density lipoprotein by green tea catechin. *J Agric Food Chem.* 1999 May;47(5):2020-5.

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more water soluble and have better stability than previous versions of active folic acid.*

N-ACETYL L-TYROSINE is an acetylated derivative of L-tyrosine, a conditionally essential amino acid. It can be converted in the brain to dopamine, norepinephrine, and epinephrine hormones that are often depleted by stress and hectic lifestyles. N-acetyl L-tyrosine, which is converted in the body to L-tyrosine, is twenty times as soluble in water as L-tyrosine itself and significantly better absorbed and bioavailable.*

GREEN TEA EXTRACT (CAMELLIA SINENSIS) consumption is correlated with reduced incidence of age-related brain dysfunction. Green tea contains a variety of antioxidant polyphenols known to be protective against a host of chronic age-related conditions. One of its active compounds, epigallocatechin gallate (EGCG), has been shown to be a neuroprotectant and is extremely effective at penetrating brain tissue.*

Researchers have shown in animal studies that EGCG can reduce the cellular changes associated with age- and toxin-related brain dysfunction. EGCG's specific anti-inflammatory properties have been shown to protect cultured brain tissue from the loss of dopaminergic cells. While more human studies are yet to be completed, green tea polyphenols have proven to exert powerful protection for dopaminergic neurons making them a key component in the prevention of brain dysfunction.*

ALPHA R-LIPOIC ACID: Lipoic acid is a potent universal antioxidant due to its amphipathic nature (both fat- and water-soluble). Lipoic acid is produced naturally within the body and contributes to xenobiotic detoxification. In addition to its ability to quench free radicals, lipoic acid bolsters levels of endogenous glutathione and vitamin E. The low molecular weight of lipoic acid allows it to easily cross the blood-brain barrier, delivering neuroprotection within the central nervous system. Lipoic acid also assists in inhibiting inflammatory reactions.*

Alpha R-Lipoic acid is the natural “fully active” isomer of lipoic acid. The ‘R’ form is the correct structural fit for membrane receptors and enzymes and therefore is utilized more efficiently and exhibits greater potency.*

Contraindications: Do not use with patients who are taking methyl dopa, MAO inhibitors, tricyclic antidepressants or antipsychotic drugs. This product should be used with caution in patients with cardiovascular disease (may cause orthostatic hypotension, dizziness, or palpitations), diabetes (may lower blood sugar or cause hypoglycemia), liver disease (may cause increased liver function tests), or psychiatric disturbance.*