

Sublingual-12 Plus

Stress control

DESCRIPTION

Sublingual-12 Plus tablets, as provided by Douglas Laboratories®, dissolve rapidly in the mouth, releasing 1,000 mcg of pure vitamin B₁₂ together with 400 mcg of folic acid.

FUNCTIONS

Vitamin B₁₂ is essential for normal energy metabolism of carbohydrate, fat and protein. As a cofactor for methylmalonyl-CoA mutase enzymes, vitamin B₁₂ helps convert odd chain fatty acids and branched chain amino acids into succinyl-CoA, a common citric acid cycle intermediate. Vitamin B₁₂ is also required for nucleic acid (DNA) synthesis, methionine synthesis from cysteine, and normal myelin synthesis in the nervous system. Along with vitamin B₆ and folic acid, adequate levels of vitamin B₁₂ are required to maintain normal plasma homocysteine levels. Elevated plasma homocysteine may be an independent risk factor for developing cardiovascular disease.

There are two distinct mechanisms for intestinal vitamin B₁₂ absorption; receptor-mediated absorption and passive diffusion. In the first, vitamin B₁₂ attaches to a salivary "R-binder" protein which transports it into the small intestine, where vitamin B₁₂ is released. The vitamin then binds to "Intrinsic Factor" (IF), a glycoprotein normally produced by the gastric parietal cells. This vitamin B₁₂-IF complex is carried down to the ileum, where it binds to mucosal receptors. Finally, the complex is absorbed and bound to serum vitamin B₁₂-binding proteins. The second absorption mechanism, passive diffusion, does not require any carriers, such as B-binder or IF. Only about 1% of free vitamin B₁₂ is passively absorbed, but this can be nutritionally significant with higher dietary vitamin B₁₂ intakes.

Almost 40% of the population is suggested to have "low normal" plasma B₁₂ levels. Strict vegetarians, the elderly, and, HIV/AIDS patients are often at risk for vitamin B₁₂ deficiency, either due to low dietary intake or impaired absorption. In the elderly, hypo- or achlorhydria maintains the binding of the vitamin

with dietary proteins, leading to malabsorption. Vitamin B₁₂ deficiency can lead to CNS impairment, including cognition.

INDICATIONS

Sublingual-12 Plus tablets may be a useful dietary supplement for individuals who wish to increase their intake of vitamin B₁₂ and folate.

FORMULA (#7560)

Each Tablet Contains:

Vitamin B ₁₂	1,000 mcg
Folic Acid	400 mcg

SUGGESTED USE

Adults take 1 tablet daily or as directed by physician. Let tablet dissolve in mouth.

SIDE EFFECTS

No adverse effects have been reported.

STORAGE

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

REFERENCES

Altay C, Cetin M. Vitamin B12 absorption test and oral treatment in 14 children with selective vitamin B12 malabsorption. *Pediatr Hematol Oncol* 1999;16:159-63.

Bopp-Kistler I, Ruegger-Frey B, Grob D, et al. [Vitamin B12 deficiency in geriatrics]. *Schweiz Rundsch Med Prax* 1999;88:1867-75.

D'Angelo A, Coppola A, Madonna P, et al. The role of vitamin B12 in fasting hyperhomocysteinemia and its interaction with the homozygous C677T mutation of the methylenetetrahydrofolate reductase (MTHFR) gene. A case-control study of patients with early-onset thrombotic events. *Thromb Haemost* 2000;83:563-70.

Flynn MA, Herbert V, Nolph GB, et al. Atherogenesis and the homocysteine-folate-cobalamin triad: do we need standardized analyses? *J Am Coll Nutr* 1997;16:258-67.

Guyonnet S, Nourhashemi F, Ousset PJ, et al. [Alzheimer's disease and nutrition]. *Rev Neurol (Paris)* 1999;155:343-9.

Sanders TA. The nutritional adequacy of plant-based diets. *Proc Nutr Soc* 1999;58:265-9.

Scott JM. Folate and vitamin B12. *Proc Nutr Soc* 1999;58:441-8.

Smith DL. Anemia in the elderly. Am Fam Physician
2000;62:1565-72.

Tucker KL, Rich S, Rosenberg I, et al. Plasma vitamin B-12
concentrations relate to intake source in the Framingham Offspring

study. Am J Clin Nutr 2000;71:514-22.

Ubbink JB. Should all elderly people receive folate supplements?
Drugs Aging 1998;13:415-20.

**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**