

B12 Spray and Methyl B12 Chewable

Sublingual Vitamin B12



Features



B12 Spray

500 micrograms cyanocobalamin in a peppermint flavoured spray



Methyl B12 Chewable

5 mg bioavailable and metabolically active mecobalamin in a chewable tablet



Benefits:

- Maintains healthy nervous and immune system function
- Supports energy production, relieves fatigue and assists in healthy red blood cell production
- Supports vitamin B12 levels

Which sublingual B12?

B12 Spray



Cyanocobalamin

Common and stable form

Helps prevent dietary B12 deficiency

Maintenance dose

Vegan formula

Methyl B12 Chewable



Mecobalamin

Metabolically active form

Supports vitamin B12 levels

Higher dose

Vegetarian formula

Prescribing Insights

Sublingual vitamin B12 may be prescribed to support adults who:

- Have low B12 levels^{1,2}
- Find other delivery formats don't meet their B12 needs³
- Feel fatigued or want more energy^{1,2}
- Follow a vegan or vegetarian diet¹
- Have genetic variations affecting B12 assimilation¹
- Are in their later years of life, especially 60 years +¹

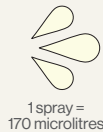
ACTIVE INGREDIENTS

B12 Spray

Each 170 microlitres dose (1 spray) contains:

Cyanocobalamin (vitamin B12)

500 micrograms



SIZE:

50 mL

DOSE:

Adults: Pump 1 spray (170 microlitres) under the tongue one to two times a day, or as professionally prescribed. Shake well before use.



VEGAN FRIENDLY



VEGETARIAN FRIENDLY

WARNING:

Do not use during pregnancy and lactation.

Methyl B12 Chewable

Each sublingual tablet contains:

Mecobalamin (co-methylcobalamin) (active vitamin B12)

5 mg



SIZE:

60 sublingual tablets

DOSE:

Adults: Dissolve 1 tablet in the mouth once a day, or as professionally prescribed.



VEGETARIAN FRIENDLY

WARNING:

If you are pregnant or breastfeeding, talk to your health professional before use.

EDUCATION

The role of vitamin B12 in the body

Vitamin B12 is also called cobalamin due to its cobalt-containing structure. The addition of ligands cyano and methyl to cobalamin forms cyanocobalamin and mecobalamin (co-methylcobalamin).¹

Vitamin B12 plays important roles in the body. It is required for:²

- preservation of neuronal myelin sheaths
- synthesis of neurotransmitters
- homocysteine and folate metabolism
- energy production
- haemoglobin synthesis.

Additionally, vitamin B12 deficiencies can affect immune system function, with increased susceptibility to infections.⁴

Dietary absorption of vitamin B12

Vitamin B12 consumed from dietary sources (mainly animal products) is bound to protein and requires proteolytic enzymes and adequate levels of stomach acid to break the protein bonds. Once freed, vitamin B12 binds to a gastric protein called intrinsic factor (IF), which actively transports it across the small intestinal wall into the bloodstream.^{1,2}

However, dietary B12 absorption can become saturated at around 2 micrograms per meal. Additionally, dietary vitamin B12 release or IF production can be impeded by:

- low gastric acid production
- genetic polymorphisms
- older age
- compromised intestinal function.

Passive diffusion can bypass the need for IF, although this only occurs with doses higher than those found naturally found in food.¹

Sublingual absorption of supplemental vitamin B12

Passive diffusion can also occur with sublingual vitamin B12 supplementation (e.g. spray or chewable tablet via the oral mucosa). This bypasses gastrointestinal absorption and the need for IF and provides supplementation with a fast onset of action and increased bioavailability.^{1,5}

Studies show sublingual vitamin B12 supplementation, in any form, increases plasma levels and has been found to be as effective as intramuscular administration, with potentially fewer compliance issues.^{1,3}

Once in the bloodstream all forms of vitamin B12 are transported to cells to form the cellular cobalamin pool with conversion into active forms as needed.¹

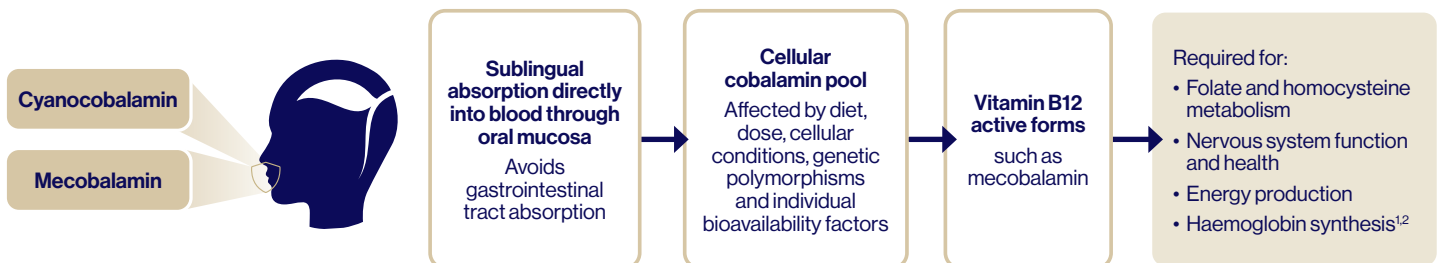
Cyanocobalamin

This form of vitamin B12 is commonly found in food fortification and supplements, with trace amounts in the body. It contributes to the cobalamin pool and the production of the active forms of vitamin B12, including mecobalamin and adenosylcobalamin (an active form required for energy production and haemoglobin synthesis).^{1,2}

Mecobalamin

Mecobalamin is a naturally occurring and metabolically active form of vitamin B12 in the body. Mecobalamin supplementation has been shown to have reduced urinary excretion with rapid cellular uptake, and increased tissue retention and liver storage, making it a bioavailable form. This may be especially important for those with genetic variations impeding vitamin B12 assimilation.¹

As an active form, it donates methyl groups for the conversion of homocysteine to methionine, via the vitamin B12-dependent enzyme, methionine synthase. This is important for reducing homocysteine accumulation and for DNA synthesis.^{1,2,6}



References

1. Paul C, Brady DM. Comparative bioavailability and utilization of particular forms of B12 supplements with potential to mitigate B12-related genetic polymorphisms. *Integr Med (Encinitas)*. 2017;16(1):42–9.
2. Higdon J. Vitamin B12. *Linus Pauling Institute* 2023. Viewed 18 July 2024. <https://lpi.oregonstate.edu/mic/vitamins/vitamin-B12>
3. Abdelwahab OA, Abdelaziz A, Diab S, et al. Efficacy of different routes of vitamin B12 supplementation for the treatment of patients with vitamin B12 deficiency: A systematic review and network meta-analysis. *Ir J Med Sci*. 2024;193(3):1621–39.
4. Abdellatif K, Al-Jubory M. Managing vitamin B12 deficiency: a comprehensive guide. *Sch J App Med Sci*. 2023;9:1749–55.
5. Kanade T, Gupta A, Mahajan S, et al. Review on sublingual tablets—a promising formulation for instant action. *Int J in Pharm Sci*. 2023;1:250–60.
6. Lyon P, Strippoli V, Fang B, Cimmino L. B vitamins and one-carbon metabolism: implications in human health and disease. *Nutrients*. 2020;12(9):2867.

Prescribing information

For comprehensive prescribing information and drug-nutrient interactions involving ingredients contained within this product, please see the BioCeuticals website: www.bioceuticals.com.au

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