

Liposomal Methyl B12

Bioavailable Methyl B12 using liposomal technology for superior absorption and delivery



200 microlitres
= 1 spray

OVERVIEW

- > Provides 500mcg of Methyl B12 (mecobalamin) per 1 spray
- > Liposomal delivery system
- > Assists in decreasing homocysteine levels when dietary intake is inadequate
- > Supports energy levels
- > Maintains nervous system function
- > Maintains immune system function
- > Relieves fatigue

Active Ingredients (per 200 microlitres – 1 spray)

Mecobalamin (co-methylcobalamin)
(Methyl Vitamin B12) 500 micrograms

Pack Size 50 mL

Serving Per Pack 250 sprays

Excipients

Lecithin, Water, Glycerol, Ethanol, Mixed Tocopherols concentrate (high alpha type), Tocofersolan

Directions for Use

Take 200 microlitres (1 spray) daily by mouth or as directed by your health care professional. Spray directly into the inner cheek or under the tongue and hold in the mouth for 30 seconds before swallowing. Take on an empty stomach.

Allergen Information

Does not contain: gluten, dairy, lactose or nuts

Prescribing Considerations

General Safety

- Vitamin B12 is generally considered safe, even in large doses.
- Considered safe in pregnancy and breastfeeding with normal intake.

Cautions and Contraindications

- Vitamin B12 may occasionally cause diarrhoea and itching skin. Signs of polycythemia vera may be unmasked.
- Mega doses may exacerbate acne.

Interactions

- Many drugs reduce absorption of vitamin B12.
- Alcohol – excessive intake may reduce the absorption of vitamin B12.
- Metformin may reduce absorption of vitamin B12.
- Methyl dopa may reduce absorption of vitamin B12.
- Oral contraceptives may reduce blood levels of vitamin B12.
- Proton pump inhibitors – long term therapy may reduce serum vitamin B12 levels.

Nutrients

- Folic acid – large doses given continuously may reduce vitamin B12 in blood.
- Vitamin C may destroy vitamin B12 (avoid large doses of vitamin C within 1 hour of oral vitamin B12).

Designed and packed in Australia from imported ingredients. Warnings: Contains Ethanol. If symptoms persist, talk to your health professional.



No Added
Gluten



No Added
Dairy



No Added
Nuts



No Added
Shellfish



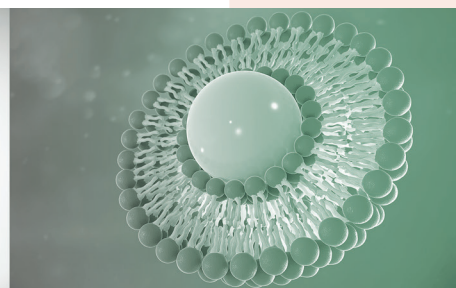
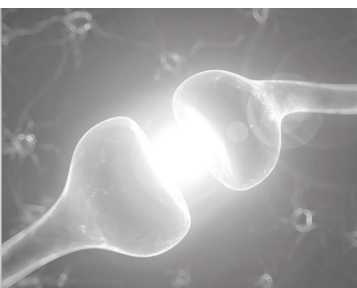
No Added
Yeast



Vegetarian
Friendly



Vegan Friendly



EDUCATION

Homocysteine reduction

“Methylcobalamin aids in the conversion of homocysteine to methionine by the action of methionine synthase, transferring a methyl group from methylfolate (folic acid). After conversion from homocysteine, methionine is then converted to S-adenosyl-L-methionine (SAME), which is important for methylation reactions and protein synthesis”.¹

Studies have shown supplementation of methylcobalamin leads to a reduction in homocysteine levels. *Yajnik et al.* showed that supplementation of 500mcg of methylcobalamin significantly decreased homocysteine by 38% in as little as two weeks; comparatively an increase in leafy green vegetables failed to lower homocysteine.²

Energy Levels

The metabolism of every cell in the body depends on vitamin B12, as it plays a part in the synthesis of fatty acids, nutrients and energy production.

Vitamin B12 enables the release of this energy by helping the body to metabolise nutrients and stimulates the body's utilisation of proteins, fats and carbohydrates. For this reason, Vitamin B12 is referred to as the energy vitamin, as it often increases energy levels, whether obtained from eating B12 foods or from supplemental use.⁴

Red Blood Cell Production

Vitamin B12 is required for all rapidly dividing cells and is involved in the production of red blood cells in bone marrow, and activates folacin coenzymes for red blood cell production.¹ A deficiency of the vitamin results in enlargement of red blood cells that are immature and inefficient at transporting oxygen.⁵

Nervous System Function

Vitamin B12 is required for the synthesis and ongoing health of the myelin sheath and promotes the normal growth of the nervous system.

The myelin sheath surrounds the axons of nerves and serves as insulation, thereby facilitating fast conduction velocity. Vitamin B12 supports nerve health via its contribution to myelin formation and remyelination. Deficiency of vitamin B12 leads to a defect in myelin synthesis.³

As vitamin B12 is vital to the process of myelin formation, B12 is considered essential for the nervous system, particularly in regard to myelin synthesis, nerve metabolism and neuronal regeneration.⁶

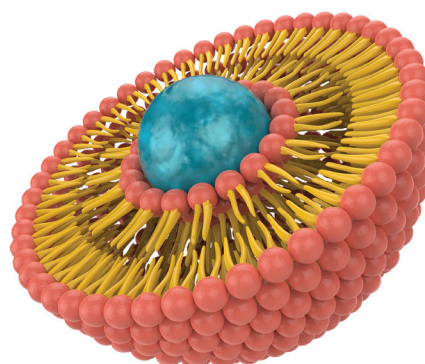
Liposomal Technology

Liposomal nutrient delivery technology bypasses the gastrointestinal tract via directly entering into circulation by way of the lymphatic system, thereby circumventing common roadblocks to nutrient assimilation such as intestinal bacterial overgrowth, low stomach acid (hypochlorhydria), and malabsorptive conditions.

What are liposomes?

Liposomes are spheres made of phospholipids—the primary building blocks of cell membranes. Due to this structure, liposomes bond quickly with cell membranes to facilitate intracellular delivery of their nutrient cargo. This enhanced delivery and absorption, allows lower doses of nutrients to have equal or sometimes even greater efficacy than higher doses provided in less bioavailable forms.^{11, 12}

Designs for Health's Liposomal Methyl B12 employs liposome particles that are 50-100nm in size, in contrast to 200-600nm particles used in supplement manufacturing. The smaller sized particles result in increased oral and cellular uptake and faster transmucosal absorption in the mouth, in addition to enhanced absorption throughout the rest of the gastrointestinal tract. For best results, hold the product in the mouth for 30 seconds before swallowing to take advantage of this effective route of absorption. Additionally, clearance of these particles from the bloodstream (via the liver and spleen) is inversely related to size: the smallest particles circulate the longest, increasing the likelihood of absorption at their target tissues. The use of sunflower lecithin phospholipids results in a soy-free and non-GMO liposome.



Benefits of Liposomal Delivery

- > Superior absorption and intracellular delivery of nutrients
- > Phospholipid structure allows for effective delivery of compounds with different solubilities carried within the same particle (e.g., water- and lipid-soluble compounds)
- > Liposomes penetrate the blood-brain barrier, an obstacle for other formulations
- > While there is an opportunity for quick absorption in the mouth, liposomes also survive the acidic environment of the stomach, ensuring intestinal uptake and delivery to the lymphatic system
- > Liquid liposomal formulations are convenient for those who prefer to swallow fewer pills; also allow for easy dosing

References supplied on request.