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ESSENTIALS

# VITAMIN B12 1000µg

Red blood cell formation energy metabolism.

## Nutritional Information

One Tablet provides:

		*%NRV
Vitamin B12 (cyanocobalamin)	1000µg	40000

\*NRV = Nutrient Reference Values

As a food supplement take one tablet daily with your main meal. Swallow with water.



## SUMMARY

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- High strength vitamin B12 supplement
- Convenient one a day formula

## DESCRIPTION

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Vitamin B12 is an essential water-soluble vitamin that is essential for the production of energy, for normal brain and nerve function and for the health of the red blood cells and the immune system. Vitamin B12 insufficiency is widespread, especially amongst those following a vegetarian or vegan diet.

## WHY IS VITAMIN B12 NEEDED FOR HEALTH?

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### Energy production

Vitamin B12 is required directly for the production of energy in the krebs cycle. Vitamin B12 is required for the creation of methlymalonyl-CoA, which is then used for the synthesis of many organic acids and the energy currency ATP. Insufficient vitamin B12 intake can therefore cause tiredness and fatigue.

### Vegetarians and vegans

Vitamin B12 is not found in a vegan diet, except for very tiny quantities in certain types of seaweed, which is not enough to rely on. Furthermore, some types of seaweed and algae, traditionally taken by vegans contains a substance called pseudo vitamin B12. This is a substance that is very similar to vitamin B12 but does not have the same biological effect. Furthermore, pseudo vitamin B12 will compete for absorption with vitamin B12, which can make a deficiency or low dietary status worse.

### Blood and cardiovascular health

Vitamin B12 is essential for the health of the blood and oxygen transportation around the body. A deficiency in vitamin B12 can lead to abnormally large blood cells as seen in megaloblastic anaemia which are inefficient at transporting oxygen around the body. The effect that vitamin B12 has on blood has been made famous by pernicious anaemia, an autoimmune condition where the immune system attacks the cells in the stomach that produce intrinsic factor, a substance necessary for vitamin B12 absorption.

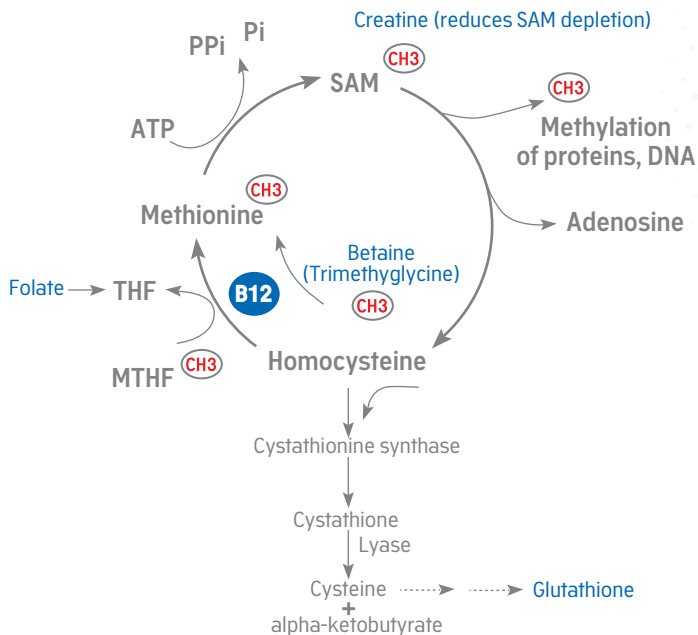
Due to its role in the methylation cycle and the regulation of homocysteine levels, vitamin B12 deficiency is now being studied for a contributory factor for atherosclerosis<sup>4</sup>. High homocysteine levels are an established risk factor for cardiovascular complications, however the exact mechanisms are currently unclear.

### The immune system

Vitamin B12 is an essential nutrient for the immune system. It is required in the methylation cycle, a series of biochemical reactions that occurs in each cell. Vitamin B12 works with folate to create the metabolites, cysteine and then glutathione. Glutathione is a powerful antioxidant and a delicate balance is required for the optimum function of lymphoid cells<sup>3</sup>, thus making B12 an essential component of the immune system.

### Brain and nerve function

Vitamin B12 is required for the health of the nerves and is actively transported across the blood brain barrier, where its levels are tightly regulated<sup>1</sup>. Vitamin B12 is required for the maintenance of the myelin sheath that coats the nerves and regulates nerve to nerve communication. A vitamin B12 deficiency can result in cognitive decline, neurological and psychiatric symptoms<sup>1</sup>, including confusion; memory changes; delirium, hallucinations, delusions, depression, acute psychotic states, manic and schizophreniform states<sup>2</sup>.



## HOW SHOULD VITAMIN B12 1000µg BE TAKEN?

Take one tablet daily with food.

## ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING VITAMIN B12 1000µg?

Vitamin B12 1000µg is not intended for the following:

Pregnant and lactating women,

Children.

## FEATURES

- High strength
- Convenient one a day formula

## HEALTH NEEDS



HEART &  
CIRCULATION



IMMUNITY



SENIOR'S HEALTH



SPECIALIST  
HEALTH



ENERGY

## SCIENTIFIC REFERENCES

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- 1) Nutrients. 2016 Feb; 8:2: 68.
- 2) Journal of American geriatric society. 1988;36:12:1105-1112
- 3) Proc Nutr Soc. 2000 Nov;59:4):595
- 4) American Family Physician.2003; 67:5:979-986