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ESSENTIALS

# VITAMIN B6

Contributes to hormone regulation.

## Nutritional Information

One Tablet provides:

		*%NRV
Vitamin B6	50 mg	3571

\*NRV = Nutrient Reference Values

Take one or two tablets daily with food. Swallow with water.



## SUMMARY

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- High strength 50 mg per tablet
- One a day formula
- Required for hundreds of enzymatic processes within the body

## DESCRIPTION

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Quest Vitamin B6 is a high potency supplement containing 50mg of vitamin B6 per tablet. Vitamin B6 is needed for many functions within the body including the synthesis of cyctein, the metabolism of homocysteine, protein and glycogen metabolism, for hormonal regulation, energy production, the immune system and for red blood cells.

## WHAT DOES VITAMIN B6 DO IN THE BODY?

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**Enzymatic processes:** Vitamin B6 is part of over 100 enzymes within the body and indicated in a wide range of functions, the majority of which are concerned with protein metabolism and synthesis.

**Protein synthesis:** Studies conclude that insufficient vitamin B6 depresses liver protein synthesis by up to 23% in animal models<sup>1</sup>. The liver is one of the most important organs for protein synthesis where it uses the amino acids from the diet to form protein structures which are used in every cell of the body, however particularly for growth, healing, muscles, the heart, blood vessels and skin. Proteins are also needed for the transportation of nutrients around the body.

**Gluconeogenesis and glycogenolysis:** The enzymes required for gluconeogenesis (the process of making glucose out of non-carbohydrate sources) including ornithine aminotransferase, alanine aminotransferase, and aspartate aminotransferase are decreased in B6 deficient states, and gluconeogenesis is impaired<sup>2</sup> and may cause issues with hypoglycaemia. Vitamin B6 is also needed to convert glycogen into glucose when required.<sup>3</sup>

**Production of neurotransmitters:** Vitamin B6 is a co-factor in the synthesis of all neurotransmitters<sup>4</sup> including serotonin, melatonin, GABA and dopamine. These are essential for the communication of the body.

**Hormone regulation:** The association between vitamin B6 and the regulation of anterior pituitary hormones is being currently studied<sup>5</sup> however the effects seem to be at a hypothalamic level.

**Methylation:** Vitamin B6 is used in the methylation cycle to convert homocysteine into cysteine. This is an essential step as high homocysteine levels increase the likelihood of developing cardiovascular disease. Adequate cysteine is also needed as it converts into glutathione, the body's major antioxidant.

## WHAT EFFECT DOES VITAMIN B6 HAVE ON HEALTH?

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**Cardiovascular health:** Due to its role in reducing homocysteine and promoting the synthesis of glutathione via cysteine, vitamin B6 is essential for cardiovascular health. High homocysteine levels lead to a risk to heart health in line with that of smoking and high blood pressure.<sup>6</sup> The resulting lower levels of glutathione may cause an increase in oxidative stress on the cardiovascular endothelia cells promoting a higher risk. Vitamin B6 is also required for enzymes required to make haemoglobin and is therefore partially responsible for tissue oxygenation.

**Hormone related health conditions:** Adequate vitamin B6 levels are necessary to balance the ratio of testosterone, oestrogen and progesterone and to prevent conditions such as oestrogen dominance. Vitamin B6 is essential for the development of the corpus luteum which is responsible for the production of progesterone. Male animal models show a decreased rate in the production of testosterone in deficiency states of B6<sup>7</sup>. Due to the mechanism of B6 on the hypothalamus and pituitary gland, benefits in hormonal regulation can be seen in both males and females.

**Immunity:** Vitamin B6 deficiency affects humoral and cell-mediated immune responses. B6 is required for the maturation and differentiation of lymphocytes, and deficiency may result in hypersensitivity and a decrease in antibody production. Some research indicates that vitamin B6 may even influence tumour growth. The changes to immunity have been observed in patients with HIV, rheumatoid arthritis and the elderly population<sup>8</sup>.

Nervous health and psychiatric disorders: Due to the role of vitamin B6 in the production of neurotransmitters and their effect on nervous health, B6 deficiency plays a large role in mental health conditions. Schizophrenia has been associated with increased homocysteine levels.

## ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING VITAMIN B6?

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Vitamin B6 is intended exclusively for adults and is not recommended for children. Seek advice from a health professional before taking during pregnancy or breastfeeding.

## FEATURES

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- High strength 50 mg per tablet
- Required for hundreds of enzymatic processes within the body
- One a day formula

## HEALTH NEEDS

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WOMEN'S  
HEALTH



ENERGY



HEART &  
CIRCULATION

## SCIENTIFIC REFERENCES

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