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ESSENTIALS

# B COMPLEX (Timed Release)

Energy formula. Contains nutrients to reduce tiredness and fatigue.

## Nutritional Information

One Tablet provides:

		*%NRV
Thiamin (B1)	79 mg	7182
Riboflavin (B2)	100 mg	7143
Niacin (B3)	100 mg NE	625
Vitamin B6	82 mg	5857
Folic Acid	400 µg	200
Vitamin B12	100 µg	4000
Biotin	100 µg	200
Pantothenic Acid	100 mg	1667
Choline Bitartrate	100 mg	
Inositol	100 mg	
PABA	100 mg	

NE = Niacin equivalent \*NRV = Nutrient Reference Values  
Long term intake of this amount of Vitamin B6 may lead to mild tingling and numbness

Take one tablet daily with a meal. Swallow with water.



## SUMMARY

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- Timed release formula.
- High potency formulation.
- Full spectrum of B vitamins with PABA, choline and inositol.

## DESCRIPTION

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A high potency quick release formula providing a full spectrum of B vitamins, PABA, choline and inositol. B Complex – timed release is designed to support a hectic lifestyle, concentration levels, a reduction in tiredness and fatigue and to support a healthy stress response.

B vitamins are needed for the immune system to function effectively. Often the immune system becomes less effective in states of stress which can lead to increased incidences of infections.

B complex timed release contains B vitamins as well as para aminobenzoic acid (PABA), choline and inositol for a synergistic effect.

## SUPPORTING A HECTIC LIFESTYLE

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**The Krebs cycle:** B vitamins are required directly for the energy production cycle, also called the krebs cycle. They are used as important cofactors.

- Niacin (B3) – NADH.
- Riboflavin (B2) - FADH.
- Pantothenate (B5) - Coenzyme A.
- Vitamin B12 - methylmalonyl-CoA.

NADH, FADH, Coenzyme A and methylmalonyl-CoA feed directly into the krebs cycle where they aid in the production of ATP, a vital energy source. Insufficient intake of B vitamins can impair energy production. It is important to have a steady supply of B vitamins throughout the day for adequate energy production.

**Oxygen transportation:** B vitamins contribute towards energy production is with the oxygen transportation in the body. Vitamins B3, folate and B6 are all required for the synthesis of all haem proteins, including haemoglobin, necessary for iron transportation and energy production<sup>1</sup>. Anaemia can be caused by a deficiency in any of these nutrients, as well as a deficiency in iron. Even in the case of iron deficiency anaemia, a B complex should be taken for a multi-therapeutic approach to recovery.

**The thyroid:** The thyroid is an essential gland for metabolism and energy production, and requires vitamin B2 to work effectively. Vitamin B2 is required as a cofactor in the synthesis of flavoproteins (proteins that contain nucleic acids). These are essential for the proper function of the thyroid<sup>1</sup>.

## IMMUNE SYSTEM

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**Normal antibody response:** The effect of a B vitamin inadequacy on the immune system is profound, especially with the inadequacy of folate<sup>2</sup>. The thymus gland, where T lymphocytes are developed and taught self-tolerance, undergoes changes in the state of folate deficiency. Normal antibody responses have been shown to be decreased, increasing the chance of developing infections<sup>2</sup>.

**Methylation:** Further roles of B vitamins in the immune system are in the process of a biochemical reaction that occurs in each cell called methylation. Folate and vitamin B12 work together in the methylation cycle to create metabolites (cysteine and then glutathione). Glutathione is a powerful antioxidant created as a result of methylation and requires B2 to activate it in a process called the redox cycle<sup>1</sup>. A delicate balance of glutathione is required for the optimum function of lymphoid cells<sup>3</sup>, thus making B12, B2 and folate essential components of the immune system.

**Inflammation:** B vitamins are part of a complex reaction within the immune system. Vitamin B3<sup>1</sup> and B6 are other vital nutrients, is required for the production of C1 proteins<sup>4</sup>. These aid with phagocytosis and inflammation, both core factors in infection resistance.

## BRAIN FUNCTION

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**Blood brain barrier:** B vitamins are required for the health of the nerves and are actively transported across the blood brain barrier, where their levels are tightly regulated<sup>1</sup>.

**Neurotransmission:** Choline is required for the creation of acetylcholine, and B1 plays a neuro-modulatory role in the acetylcholine neurotransmission. Acetylcholine is a neurotransmitter required for nerve to nerve communication, muscle function<sup>5</sup>, learning and memory<sup>6</sup>.

**Mood and sleep:** Furthermore, B vitamins are required for mood and sleep. Vitamin B6 and folate are required as cofactors in the synthesis of many neurotransmitters including dopamine, serotonin and GABA. Suboptimal levels of B6 cause a decrease in the production of these neurotransmitters which can effect mood and sleep<sup>1</sup>.

**Cognitive decline:** With B vitamins playing an essential role in neurotransmission. Cognitive decline, neurological and psychiatric symptoms can result as a deficiency in any of the B vitamins<sup>1</sup>, and most commonly folate and B12<sup>7</sup>.

## THE STRESS RESPONSE

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**Serotonin:** Vitamin B6 and folate are required for the production of serotonin. Serotonin is an essential neurotransmitter in our ability to cope with stress.

**The adrenal glands:** B vitamins are needed as cofactors in the synthesis of adrenaline which is produced by the adrenal glands in times of stress, and enables us to think and move quickly under pressure. In times of chronic stress, these can quickly become depleted. Vitamin B5 is especially required by the adrenal glands for the manufacture of stress hormones, and a deficiency can result in impaired adrenal function and the failure to produce cortisol.<sup>8</sup>

Folic acid and vitamin B12 can become rapidly depleted in states of stress and elevated cortisol, and need to be replaced frequently during chronic stress states.

## WHY IS A B COMPLEX PREFERRED TO SINGLE NUTRIENTS AND WHAT ARE THE BENEFITS OF A TIMED RELEASING TABLET?

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**Synergy:** B vitamins work together and have a synergistic effect. Although a specific B vitamin may be required for a specific symptom, others may enhance that action.

A classic example is as follows:

- Vitamin B2 helps to recycle B3, folate and B6<sup>1</sup>.
- B3 is required for the conversion of folate into its bioactive form – methyltetrahydrofolate.
- A deficiency in either B12 or folate can appear the same, and taking just one of these can hide a deficiency state of the other.

**B vitamin deficiency:** We are very rarely deficient in just one B vitamin, although only one may present itself in a deficiency disease, this is with the exception of vitamin B12 with pernicious anaemia and veganism where a single deficiency is possible. A deficiency generally occurs due to poor diet, poor absorption or with an increased need, which most often affects all of the B vitamin family.

A timed releasing B complex is ideal for individuals who are chronically stressed or have generally low energy levels throughout the day.

Quest B complex - timed release is also recommended for those who wish to maintain focus and concentration throughout the day.

## HOW SHOULD B COMPLEX TIMED RELEASE BE TAKEN?

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Take one tablet daily with a meal. Swallow with water.

## ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING B COMPLEX TIMED RELEASE?

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B complex timed release is intended for use by individuals who wish to support the stress response, energy production, the immune system and brain function and is not suitable for the following:

- Pregnant and breastfeeding woman;
- Children.

Consult a healthcare professional before taking while on any medication.

## FEATURES

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- High potency vitamin B complex
- Timed release tablet designed to provide B vitamins throughout the day.

## HEALTH NEEDS

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DETOX AND CELL  
PROTECTION



ENERGY



EVERYDAY HEALTH  
AND WELLBEING



IMMUNITY



STRESS AND A  
HECTIC LIFESTYLE

## SCIENTIFIC REFERENCES

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