

## FAST FACTS

# B vitamins

*Thiamin, Riboflavin, Niacin, Pantothenic acid, Pyridoxine, Biotin, Folate, Cobalamin*

### What

B vitamins are a group of eight essential water-soluble vitamins that play key roles in energy production, brain function, and cell metabolism. These vitamins include B1 (thiamin), B2 (riboflavin, the one that makes your pee turn yellow), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folate), and B12 (cobalamin). Each B vitamin serves a specific function, but together, they support overall health by helping to convert food into energy, forming red blood cells, and maintaining healthy skin and brain function.

### How they work

B vitamins are crucial for a variety of physiological processes, including DNA synthesis, cell repair, and energy production. They help the body cope with stress, support cognitive function, and improve mood. Deficiencies in B vitamins can lead to fatigue, weakness, anaemia, depression, and neurological disorders. B vitamin supplementation may be particularly important for those with increased nutrient demands, such as pregnant women, older adults, and individuals with digestive disorders or genetic variations in methylation (MTHFR gene).

### Food sources

Leafy greens (folate), meat and fish (B12 and B6), eggs, nuts, seeds, and most whole foods. Variety is best.

### Testing

Being water soluble, most of our B-vitamins are regularly excreted, meaning testing for levels directly is not typically useful beyond B12, which is stored. There are many proxies which can give indications, such as homocysteine, and MCV. B-vitamin organic acid profiles (e.g. methylmalonic acid, MMA, the best functional marker for b12), are typically best.



### Pros

- Energy production
- Brain function
- Mood, stress and cognition
- Cell metabolism and repair
- DNA synthesis

### Considerations

- Where dietary intake is inadequate, or testing reveals insufficiencies, B-complex supplements can be used to meet daily requirements. Depending on various genetic factors - most importantly MTHFR - some individuals may benefit from partially activated (eg. folinic acid), or fully methylated (active) forms of B vitamins, such as methylfolate and methylcobalamin.
- B vitamins are water-soluble, meaning they are excreted easily, and therefore need to be consumed regularly. Managing stress, avoiding excess alcohol, and eating a balanced diet can support optimal B vitamin levels.
- Consult a healthcare provider before beginning supplementation