

Vitamin B12 (Cobalamin) Overview

Why We Need It

Vitamin B12 is a water-soluble vitamin essential for red blood cell formation, neurological function, and DNA synthesis. It plays a crucial role in energy production and maintaining a healthy nervous system.

Functions in the Body

Red Blood Cell Formation: Prevents megaloblastic anemia, which causes fatigue and weakness.

Neurological Health: Supports nerve function and prevents degeneration of the myelin sheath.

DNA & RNA Synthesis: Essential for genetic material production and cell division.

Energy Production: Aids in converting food into usable energy.

Heart Health: Helps lower homocysteine levels, reducing cardiovascular disease risk.

Cognitive Function: Supports brain health and may reduce the risk of cognitive decline.

Daily Recommended Intake

Adults: 2.4 mcg/day

Pregnant Women: 2.6 mcg/day

Lactating Women: 2.8 mcg/day

No established Upper Limit (UL), but high doses may cause mild side effects.

Benefits of Supplementation

- Supports red blood cell production and prevents anemia.
- Enhances energy levels and reduces fatigue.
- Promotes brain health and may protect against neurodegenerative disorders.
- Helps maintain healthy nerve function and reduces the risk of neuropathy.
- Supports cardiovascular health by regulating homocysteine levels.

Most Bioavailable Form

Methylcobalamin – The active and most readily absorbed form of B12, particularly beneficial for neurological and energy-related functions.

Hydroxocobalamin – A long-lasting form commonly used in B12 injections.

Best Food Sources

Animal-based: Liver, beef, eggs, dairy products, fish (salmon, tuna, sardines), and shellfish (clams, oysters).

Plant-based: Fortified cereals, nutritional yeast, and plant-based milks (since natural plant sources do not contain B12).

Conclusion

Vitamin B12 is vital for energy production, neurological health, and red blood cell formation. Since it is primarily found in animal products, supplementation with Methylcobalamin is recommended for vegetarians, vegans, and individuals with absorption issues to ensure optimal health and energy levels.

