

Vitamin B4 (Choline) Overview

Why We Need It?

Choline is an essential water-soluble nutrient that plays a critical role in brain function, liver health, and metabolism. Although the body can produce small amounts, dietary intake is necessary to meet daily requirements.

Functions in the Body

Brain & Nervous System Support: Precursor to acetylcholine, a neurotransmitter involved in memory, mood, and muscle control.

Liver Health: Helps prevent fatty liver disease by supporting lipid metabolism.

Cell Membrane Integrity: Essential for phospholipid synthesis, maintaining cell structure and function.

Methylation & DNA Synthesis: Supports gene expression and homocysteine regulation.

Muscle Function & Recovery: Involved in nerve signaling and endurance performance.

Daily Recommended Intake (RDI):

Men: 550 mg/day

Women: 425 mg/day

Pregnant Women: 450 mg/day

Lactating Women: 550 mg/day

Upper Limit (UL): 3,500 mg/day (excessive intake may cause low blood pressure and fishy body odor).

Benefits of Supplementation

- Supports brain health, memory, and cognitive function.
- Promotes liver detoxification and reduces the risk of fatty liver disease.
- Aids in muscle performance and recovery.
- Helps regulate homocysteine levels, reducing cardiovascular risk.
- Supports fetal brain development during pregnancy.

Most Bioavailable Form

Alpha-GPC (L-Alpha Glycerylphosphorylcholine) – Highly absorbable and directly increases acetylcholine levels, supporting brain function and muscle performance.

Citicoline (CDP-Choline) – Supports cognitive function and enhances dopamine receptor sensitivity.

Best Food Sources

Animal-based: Egg yolks, beef liver, salmon, chicken, and dairy products.

Plant-based: Brussels sprouts, soybeans, peanuts, quinoa, and broccoli.

Conclusion

Choline is essential for brain function, liver health, and cellular integrity. Since many people do not get enough through diet alone, supplementation with Alpha-GPC or Citicoline can enhance cognitive performance, liver function, and overall metabolic health.

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