VITAMINS & MINERALS

Biotin

AN ESSENTIAL B VITAMIN



Biotin is a water-soluble B-vitamin found in many foods, such as meats, eggs, fish, nuts and seeds. Intestinal bacteria also produce this nutrient. Biotin serves as an essential cofactor in a number of carboxylation reactions involved in carbohydrate, fat and protein metabolism. Adequate intake (AI) for adults over 18 years and during pregnancy is 30 mcg daily. Clinical studies indicate that biotin supplementation may adjust the cellular arrangement of the nail bed, helping to reinforce keratin structure, promote strength and thickness, and reduce splitting.[1-3‡]

- Promotes nail strength and resistance to brittleness‡
- Supports healthy lipid and glucose metabolism‡
- Supports nerve cell health and immune system function‡

WHO IS THIS SUPPLEMENT FOR?

- Patients exhibiting thin, brittle or splitting fingernails
- Patients seeking support for metabolic health



MECHANISMS OF ACTION

Biotin is a cofactor that works by attaching to various proteins (enzymes, histones and transcription factors), facilitating their functions. Specifically, biotin acts as a cofactor for five carboxylases (propionyl-CoA carboxylase, pyruvate carboxylase, methylcrotonyl-CoA carboxylase, acetyl-CoA carboxylase 1, and acetyl-CoA carboxylase 2) which are involved in the metabolism of glucose, fatty acids, and amino acids. [4-6] Additionally, biotin plays important roles in epigenetics and gene expression by regulating chromatin structure and transcription factor activity.[7]

RESEARCH HIGHLIGHTS‡

Clinical studies suggest that biotin may adjust the cellular arrangement of the nail bed, helping to reinforce the keratin structure, promote strength and thickness, and reduce splitting.[1-3]

In trial of 71 subjects supplemented with 2.5 mg biotin daily, firmness and thickness of fingernails increased from baseline in 41 (91%) of 45 subjects available for follow-up after an average duration of 5.5 +/- 2.3 months.[1]

A small retrospective study of 35 subjects with brittle nails reported clinical improvement in 22 of the 35 subjects (63%) receiving 2.5 mg/day biotin for 6-15 months.[3]

‡This statement has not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

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POTENTIAL INTERACTIONS

Interactions with laboratory tests. Biotin may interfere with certain blood tests, potentially producing inaccurate results. Wait at least 8 hours between biotin consumption and blood testing.

To check whether a medication may have clinically significant interactions with nutrients and ingredients based on doses commonly used in dietary supplements, visit our **Drug-Nutrient Interaction Checker**.



Supplement Facts

1 capsule, 1-2 times daily, with a meal.

Each (size 3) vegetarian capsule contains:

Biotin	8,000 mcg

Other ingredients: hypoallergenic plant fiber (cellulose), vegetarian capsule (cellulose, water)

Biotin may interfere with certain blood tests. Wait at least 8 hours between biotin consumption and blood testing. Inform your health professional about all biotin-containing supplements you are taking. If you are pregnant or lactating, have any health condition or are taking any medication, consult your health professional before use.

Vitamins & Minerals

Biotin 8 mg	Quantity	Order Code
	120	BI1
	60	BI6

REFERENCES

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4. Institute of Medicine. Food and Nutrition Board. Dietary Reference Intakes: Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. Washington, DC: National Academy Press; 1998.
5. Gropper SAS, Smith JL, Groff JL. *Advanced Nutrition & Human Metabolism*. Chapter 9: The Water-Soluble Vitamins. p.342-8. Australia: Wadsworth/Cengage Learning. 2009: 506-513.
6. Pacheco-Alvarez D, et al. *Arch Med Res* 2002;33:439-47.
7. Rodriguez-Melendez R, et al. *J Nutr Biochem*. 2003 Dec;14(12):680-90.

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