



BIOTIN

1000 mcg, 5000 mcg
Extra Strength 10,000 mcg

NPN 800633309 – 1000 mcg
NPN 800625665 – 5000 mcg
NPN 800737444 – 10,000 mcg

RESEARCH INFORMATION

Feature summary

Biotin is an essential nutrient for numerous enzyme systems in the body and is vital for the breakdown of carbohydrates, fats, and protein into energy. Biotin is a vital nutrient for the prevention of nail brittleness and splitting, helping to promote strong, healthy nails while encouraging thicker, healthier hair.

In addition to reducing nail brittleness and splitting, Biotin has been shown to improve the appearance of nails by increasing nail thickness by approximately 25%. An estimated one in five people have brittle nails, which can cause nail splitting and pain, embarrassment over nail appearance, and may even interfere with work and daily life.

Biotin also encourages the growth of strong, thick, healthy-looking hair. It can help reverse hair loss and changes in hair colour that may result from a biotin deficiency. Some dry skin conditions can also benefit from biotin supplementation as this nutrient supports the production of fatty acids essential for skin health.

Natural Factors Biotin is available in 1000 mcg, 5000 mcg, and 10,000 mcg, non-GMO, vegetarian capsules to promote healthy skin, hair, and nails while supporting energy metabolism.

How it works

Biotin is needed for the synthesis of fatty acids that support skin health and proteins including keratin, a major constituent of skin, hair, and nails. As such, biotin supports tissue growth to enhance nail bed health and thickness, promote strong nails and hair, and reduce brittleness and hair loss.

Because of its key role in fatty acid and protein synthesis, biotin deficiency is associated with hair thinning and alopecia (spot baldness), loss of hair colour, and a red scaly rash around the eyes, nose, and mouth.

Deficiency can impair activity of biotin-dependent enzyme pyruvate carboxylase, leading to elevated pyruvate and aspartate, and nerve damage associated with neurological symptoms including low mood, lethargy, hallucinations, and “pins and needles” in the extremities.

Biotin is an essential coenzyme in numerous metabolic processes, including the breakdown of carbohydrates, fats, and protein for energy. Biotin also supports insulin activity and blood sugar regulation, and stimulates the production of glycogen, the body’s main form of energy.

Biotin deficiency is more common in pregnancy, older age, in athletes and in people with malabsorption syndromes, diabetes, or those taking anticonvulsant medications.

Research

Approximately 20% of people are affected by brittle nails, with twice as many women affected than men. Many people with brittle nails report cosmetic concerns as well as pain and interference with daily activities, including problems carrying out tasks at work (van de Kerkhof et al., 2005). In one study, biotin supplementation was associated with an increase in nail plate thickness, as well as reduced nail splitting (Colombo et al., 1990). In another study, people who took 2500 mcg of biotin daily had a 25% increase in nail plate thickness (Scheinfeld et al., 2007). In an uncontrolled study using the same dose, 91% of people with brittle nails showed “definite improvement” with firmer, harder nails after an average of two months of treatment (Floersheim, 1989).

Daily biotin supplementation (5000 mcg) has been used to treat uncombable hair syndrome, an inherited condition that leads to unruly, dry, blonde hair prone to tangling and which is also associated with nail fragility (Boccaletti et al., 2007).

Biotin deficiency can cause skin symptoms similar to zinc deficiency, namely a red scaly rash around the mouth, nose, and eyes. This is thought to be due to biotin’s involvement in the synthesis of the fatty acids that help maintain healthy skin cell membranes and hydration, preventing dry skin conditions such as dermatitis (Mock, 1991).

In one 16-year-old patient with zinc and biotin deficiencies resulting from a pancreaticoduodenectomy, clinical deficiency symptoms included marked alopecia, total body hair loss, dry skin with scales, and maculopathy with significant vision loss. Biotin and zinc supplementation resolved these symptoms (Yazbeck et al., 2010).

Biotin is necessary for the proper function of a variety of critical metabolic pathways, including those involved in the synthesis of fatty acids and nucleic acids, and in the metabolism of fats and carbohydrates. In addition, biotin stimulates the production of glycogen, the main type of fuel storage in muscles.

Biotin has been shown to play an essential role in regulating blood glucose and serum lipid metabolism, with blood glucose concentrations decreasing as concentrations of biotin increase (Coggeshall et al., 1985). In one placebo-controlled, randomized trial, non-diabetic people aged 30–65 who were given the equivalent of around 15,660 mcg for 28 days had significantly reduced plasma triacylglycerol and very low-density lipoprotein (VLDL) concentrations, suggesting that pharmacological doses of biotin decrease hypertriglyceridemia without adverse effects (Revilla-Monsalve et al., 2006).

In a randomized double-blind placebo-controlled clinical trial, 35 patients (5–25 years old) with poorly controlled type 1 diabetes received 40 mcg of biotin per kg of body weight, plus daily insulin, for three months, while 35 similar patients received a placebo plus daily insulin. In the biotin group, glycated hemoglobin and fasting blood sugar levels decreased, demonstrating improved blood sugar control over the three-month study (those receiving placebo actually had an increase in glycated hemoglobin). The biotin group also had improvements in total cholesterol, low-density lipoprotein cholesterol, and triglycerides, compared to the placebo group (Hemmati et al., 2013).

Ingredients

Biotin 1000 mcg

Each vegetarian capsule contains:

Biotin1000 mcg

Biotin 5000 mcg

Each vegetarian capsule contains:

Biotin5000 mcg

Biotin 10,000 mcg

Each vegetarian capsule contains:

Biotin10,000 mcg

Dosage

1000 mcg, 5000 mcg, 10,000 mcg

Recommended adult dose: 1 capsule daily or as directed by a health care practitioner. Consult a health care practitioner for use beyond 4 weeks.

Cautions

Consult a health care practitioner prior to use if you are pregnant or breastfeeding. Keep out of the reach of children.

References

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