

Vitamin B7 - Biotin

Vitamin B7 – Biotin is a water soluble vitamin, necessary for the synthesis of fatty acids and the formation of glucose from fats and amino acids. It is required for the metabolism of amino acids, cholesterol, and some fatty acids. Biotin is synthesized by bacteria, yeasts, molds, algae, and some plants.

Biotin deficiency is rare (though it has been found in long term consumption of raw egg whites). Symptoms of deficiency include hair loss, scaly red rash around eyes, nose, mouth, and genital area, anorexia, nausea, weight loss, muscle pains, localized loss of sensation, depression, lethargy, hallucination, numbness and tingling of the extremities, and possible impaired immune system function which can increase susceptibility to bacterial and fungal infections. There is an increased risk of deficiency in those with impaired liver function due to cirrhosis. Deficiency results in impaired utilization of glucose.

Our intestinal bacteria produce biotin, but it is unclear how much can be absorbed by our bodies, from that synthesis. Large doses of pantothenic acid may compete with biotin for uptake, due to its similar structure. More information regarding biotin is available from the Linus Pauling Institute, of Oregon State University and can be found online at <http://lpi.oregonstate.edu/infocenter/vitamins/biotin/>.

The adequate intake (AI) of biotin is 30 micrograms (mcg) for the average adult. There is no set tolerable upper limit as it is not known to be toxic and excess is secreted in the urine. AIs for children, pregnant, and lactating women are available from the Institute of Medicine and can be accessed online <http://iom.edu/en/Global/News%20Announcements/~media/Files/Activity%20Files/Nutrition/DRI/DRISummaryListing2.ashx>

Excellent food sources of biotin (providing more than 100% of the average adult's adequate intake) include ¼ cup peanuts, 1/3 cup filberts, ½ cup almonds and, 2 tablespoons peanut butter.

Significant food sources of biotin (contributing at least 20% of the average adult's adequate intake) include 1/3 cup cashews, 2/3 cup cooked Swiss chard, ¾ cup tomato sauce, ¾ cup cooked carrots, 2 raw carrots, 1 avocado, 2 cups papaya, and 2 bananas.

Specific amounts of biotin contained in common foods can be accessed at the website for Oregon State University's Linus Pauling Institute Micronutrient Research for Optimum Health <http://lpi.oregonstate.edu/infocenter/vitamins/biotin/> and Northwestern University's Feinberg School's Nutrition Fact sheets <http://www.feinberg.northwestern.edu/nutrition/factsheets/biotin.html>.

Biotin content is not currently available on the USDA National Nutrient Database, at the time of this writing.