

Food Sources of Vitamin B6

Vitamin B6 is a water-soluble vitamin that is naturally present in many foods, added to others, and available as a dietary supplement. It is the generic name for six compounds (vitamers) with vitamin B6 activity: pyridoxine, an alcohol; pyridoxal, an aldehyde; and pyridoxine, which contains an amino group; and their respective 5'-phosphate esters. Pyridoxal 5' phosphate (PLP) and pyridoxine 5' phosphate (PMP) are the active coenzyme forms of vitamin B6. Substantial proportions of the naturally occurring pyridoxine in fruits, vegetables, and grains exist in glycosylated forms that exhibit reduced bioavailability.

Vitamin B6 is found in a wide variety of foods. The richest sources of vitamin B6 include fish, beef liver and other organ meats, potatoes and other starchy vegetables, and fruit (other than citrus). In the United States, adults obtain most of their dietary vitamin B6 from fortified cereals, beef, poultry, starchy vegetables, and some non-citrus fruits. About 75% of vitamin B6 from a mixed diet is bioavailable.

The following table of selected food sources suggests many dietary sources of vitamin B6.

Food	Milligrams (mg) per serving
Chickpeas, canned, 1 cup	1.1
Beef liver, pan fried, 3 ounces	0.9
Tuna, yellowfin, fresh, cooked, 3 ounces	0.9
Salmon, sockeye, cooked, 3 ounces	0.6
Chicken breast, roasted, 3 ounces	0.5
Breakfast cereals, fortified with 25% of the DV* for vitamin B6	0.5
Potatoes, boiled, 1 cup	0.4
Turkey, meat only, roasted, 3 ounces	0.4
Banana, 1 medium	0.4
Marinara (spaghetti) sauce, ready to serve, 1 cup	0.4
Ground beef, patty, 85% lean, broiled, 3 ounces	0.3
Waffles, plain, ready to heat, toasted, 1 waffle	0.3
Bulgur, cooked, 1 cup	0.2

<u>Food</u>	<u>Milligrams (mg)</u> <u>per serving</u>
Cottage cheese, 1% low-fat, 1 cup	0.2
Squash, winter, baked, ½ cup	0.2
Rice, white, long-grain, enriched, cooked, 1 cup	0.1
Nuts, mixed, dry-roasted, 1 ounce	0.1
Raisins, seedless, ½ cup	0.1
Onions, chopped, ½ cup	0.1
Spinach, frozen, chopped, boiled, ½ cup	0.1
Tofu, raw, firm, prepared with calcium sulfate, ½ cup	0.1
Watermelon, raw, 1 cup	0.1

*DV = Daily Value. DVs were developed by the U.S. Food and Drug Administration (FDA) to help consumers compare the nutrient contents of products within the context of a total diet. The DV for vitamin B6 is 2 mg for adults and children age 4 and older. However, the FDA does not require food labels to list vitamin B6 content unless a food has been fortified with this nutrient. Foods providing 20% or more of the DV are considered to be high sources of a nutrient.

Source: Office of Dietary Supplements, available at: <https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/>.

The U.S. Department of Agriculture's Nutrient Database Web site lists the nutrient content of many foods and provides a comprehensive list of foods containing vitamin B6.

Other References

1. 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.
2. McCormick D. Vitamin B6. In: Bowman B, Russell R, eds. Present Knowledge in Nutrition. 9th ed. Washington, DC: International Life Sciences Institute; 2006.
3. Mackey A, Davis S, Gregory J. Vitamin B6. In: Shils M, Shike M, Ross A, Caballero B, Cousins R, eds. Modern Nutrition in Health and Disease. 10th ed. Baltimore, MD: Lippincott Williams & Wilkins; 2005.
4. U.S. Department of Agriculture, Agricultural Research Service. 2011. USDA National Nutrient Database for Standard Reference, Release 24. Nutrient Data Laboratory Home Page, <http://www.ars.usda.gov/ba/bhnrc/ndl>.
5. Subar AF, Krebs-Smith SM, Cook A, Kahle LL. Dietary sources of nutrients among US adults, 1989 to 1991. J Am Diet Assoc 1998;98:537-47.