

Food Sources:

Betaine

Betaine, also called betaine anhydrous or trimethylglycine (TMG), is found in food and can be converted in the body from a vitamin-like nutrient called choline.

Betaine is involved in liver function, cell division, carnitine production and is considered a supportive nutrient for chronic disease prevention.¹ Betaine also helps the body process an amino acid called homocysteine. High levels of homocysteine in the body can contribute to heart disease, dementia, and depression.¹⁻³ Some studies have shown a modest impact of betaine supplements for athletic performance.³ Betaine is approved by the U.S. Food and Drug Administration (FDA) to treat homocystinuria, a genetic condition where too much homocysteine builds up in the body.

The main food sources of betaine are spinach, beets, seafood, and grains.

Food, Standard Serving Size	Average Betaine Content (in milligrams)
Spinach, cooked ½ cup	645
Spinach, raw 1 cup	200
Beets, canned ½ cup	340
Beets, raw 1 cup	130
Wheat germ, 2 tablespoons	155
Wheat bread, 1 slice	115
English muffin, 1 small	65
Sweet potato, 1 small	30
Chicken noodle soup, 1 cup	24
Lean ground beef, 3 ounces	8.5
Fish cod, 3 ounces	8
Beef liver, 3 ounces	5.6
Mushrooms, raw ½ cup	4
Rolled oats, 1 cup	3

REFERENCES

1. Zeisel SH, Mar MH, Howe JC, Holden JM. Concentrations of choline-containing compounds and betaine in common foods. *J Nutr.* 2003; 133(5): 1302-1307
2. Oregon State University, Linus Pauling Institute. Micronutrient Information Center. Choline. <https://lpi.oregonstate.edu/mic/other-nutrients/choline>. Updated January 2015. Accessed May 18, 2020.
3. U.S. Department of Health and Human Services, National Institutes of Health, Office of Dietary Supplements. Dietary Supplements for Exercise and Athletic Performance. <https://ods.od.nih.gov/factsheets/ExerciseAndAthleticPerformance-HealthProfessional/#betaine>. Updated October 2019. Accessed May 18, 2020.

