

Chia Seed

COMMON NAME: Chia Seed

SCIENTIFIC NAME: Salvia hispanica

RECOMMENDED WITH CAUTION

LEVELS OF EVIDENCE



Recommended:

Several well-designed studies in humans have shown positive benefit. Our team is confident about its therapeutic potential.



Recommended with Caution:

Preliminary studies suggest some benefit. Future trials are needed before we can make a stronger recommendation.



Not Recommended - Evidence:

Our team does not recommend this product because clinical trials to date suggest little or no benefit.



Not Recommended - High Risk:

Our team recommends against using this product because clinical trials to date suggest substantial risk greater than the benefit.

Evaluated Benefits

- Chia seeds fiber reduces LDL and total cholesterol.
- Chia seed reduced systolic blood pressure and C-reactive protein (CRP) concentrations and increased serum ALA and EPA concentrations.
- Chia reduced postprandial glycemia.

Source

Salvia hispanica is an annual herbaceous plant of the *Lamiaceae* (mint) family. Its origin is believed to be in Central America, where the seed (historically called “chian” or “chia”) was a staple in the ancient Aztec diet. The seeds of a related plant, *Salvia columbariae* (also called “golden chia”), were used primarily by Native Americans in the southwestern United States. The roots of another relative, *Salvia miltiorrhiza* (danshen), are used medicinally in China and other countries.

The seed contains from 25% to 40% oil with 60% of the oil comprising omega-3 alpha-linolenic acid and 20% omega-6 linoleic acid. Chia seed is composed of protein (15–25%), fats (30–33%), carbohydrates (26–41%), high dietary fiber (18–30%), ash (4–5%), minerals, vitamins, and dry matter (90–93%). It also contains a high amount of polyphenols (antioxidants) and is a good source of niacin and vitamins A and C. There is no gluten in chia seed. It is an exceptionally rich source of vegetable protein, calcium, magnesium, and iron.

Indications/Population

Lowering of high LDL-c and total cholesterol
Patients at risk for cardiovascular disease

Mechanism of Action

Chia seed represents one of the highest known whole-food sources of dietary fiber and the n-3 polyunsaturated fatty acid (PUFA) alpha-linolenic acid (ALA).

Chia seed contains 18-36% of its weight as fiber, of which only 4 grams per 100 grams are soluble fiber but of a very high viscosity. The viscous mucilage formed when fiber from chia seed is exposed to water and human digestion might be one of the main factors potentially thought to affect glycemic control and lowering of cholesterol. The fiber components from salvia are cellulose, hemicelluloses, pectins, gums, and lignins. Not all fibers have the same potential health benefits.

In addition to its fiber providing a lower LDL cholesterol, a reduction seen in SBP (and possibly DBP) could be due to a conversion of chia seed’s ALA to EPA and DHA, leading to the production of less vasoconstrictive prostaglandins through modification of the eicosanoid pathway.

Side Effects

No side effects have been reported.

Dosing

- 1–3 tablespoons (12–36 grams) daily
- U.S. Dietary Guidelines recommend that chia seed can be used as a primary food not exceeding 48 grams per day.

Drug Interactions/Cautions

Chia contains a high concentration of alpha-linolenic acid. A single research paper suggests high dietary intake of alpha-linolenic acid might increase the risk for advanced prostate cancer. (Many papers show no increase or even a decrease.) Theoretically, taking chia might adversely affect prostate cancer. Until more is known, advise men with prostate cancer or with a high risk for prostate cancer to avoid consuming large amounts of chia.

References

Mohd Ali N, Yeap SK, Ho WY, Beh BK, Tan SW, Tan SG. The promising future of chia, *Salvia hispanica* L. *Journal of Biomedicine and Biotechnology*. 2012; 12: Article ID 171956, 9 pages. doi:10.1155/2012/171956

Poudyal H, Panchal SK, Waanders J, Ward L, Brown L. Lipid redistribution by α linolenic acid-rich chia seed inhibits stearoyl-CoA desaturase-1 and induces cardiac and hepatic protection in diet-induced obese rats. *Journal of Nutritional Biochemistry*. 2012; 23(12): 153–162. doi: 10.1016/j.jnutbio.2010.11.011

Valdivia-López MÁ, Tecante A. Chia (*Salvia hispanica*): A review of native Mexican seed and its nutritional and functional properties. *Advances in Food and Nutrition Research*. 2015; 75: 53–75. doi: 10.1016/bs.afnr.2015.06.002

Vuksan V, Jenkins AL, Dias AG, Lee AS, Jovanovski E, Rogovik AL, Hanna A. Reduction in postprandial glucose excursion and prolongation of satiety: possible explanation of the long-term effects of whole grain Salba (*Salvia Hispanica* L.). *European Journal of Clinical Nutrition*. 2010; 64(4): 436–438. doi: 10.1038/ejcn.2009.159

Vuksan V, Whitham D, Sievenpiper JL, et al. Supplementation of conventional therapy with the novel grain Salba (*Salvia hispanica* L.) improves major and emerging cardiovascular risk factors in type 2 diabetes: results of a randomized controlled trial. *Diabetes Trial*. 2007; (30)11: 2804–2810.