

Guar Gum

COMMON NAME: Guar Gum

SCIENTIFIC NAME: *Cyamopsis tetragonoloba*

NOT RECOMMENDED - EVIDENCE

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

No evidence of efficacy or not indicated

Source

Guar gum is an extract of the guar bean (*Cyamopsis tetragonoloba*). The plant is primarily grown in Pakistan and parts of India. Raw guar gum is a highly viscous, gel-forming fiber, widely used as a food-thickening agent. It is also found in nutritional supplements as a nonviscous, partially hydrolyzed version that lacks the health effects of the highly viscous raw guar gum.

Indications/Population

Raw guar gum, which is not marketed in the U.S., has been shown to reduce cholesterol in hyperlipidemia and metabolic syndrome. There is no evidence that the partially hydrolyzed version sold in the U.S. has this effect.

Mechanism of Action

Soluble, viscous chyme of raw guar gum captures and eliminates bile, stimulating bile production, resulting in lower serum cholesterol. Given that cholesterol is a major component of bile, increasing bile acid elimination via stool leads to reduced serum cholesterol concentration, mostly low density lipoprotein (LDL), as the liver uses serum cholesterol to synthesize more bile. The higher the viscosity of the fiber, the potentially greater the effect on LDL cholesterol lowering. Low-viscosity/nonviscous versions (e.g., partially hydrolyzed guar gum) do not have a cholesterol-lowering benefit.

Attenuating the re-uptake of bile has been shown to be a viscosity-dependent phenomenon (Wolever et al., 2010), where low viscosity fibers have no effect. It is therefore misleading to suggest that partially hydrolyzed guar gum has a benefit when it lacks the mechanism, and clinical evidence, that it has a cholesterol-lowering effect.

Side Effects

Abdominal cramps, abdominal distress, diarrhea, flatulence, and heartburn

Dosing

5–6 grams 3 times a day for raw version

Drug Interactions/Cautions

May interfere with medication absorption.

Notes

The nonviscous form, as is typically marketed in the U.S. today, is partially hydrolyzed guar gum, which does not have a cholesterol-lowering effect.

The raw, highly viscous form may have some benefit for lowering lipids, but more studies are needed.

Guar gum has “Generally Recognized as Safe” (GRAS) status in the U.S.

References

Butt MS, Shahzadi N, Sharif MK, Nasir M. Guar gum: a miracle therapy for hypercholesterolemia, hyperglycemia and obesity. *Critical Reviews in Food Science and Nutrition*. 2007; 47(4): 389–396. doi: **10.1080/10408390600846267**

Chutkan R, Fahey G, Wright WL, McRorie J. Viscous versus nonviscous soluble fiber supplements: Mechanisms and evidence for fiber-specific health benefits. *Journal of the American Academy of Nurse Practitioners*. 2012; 24(8): 476–487. doi: **10.1111/j.1745-7599.2012.00758.x**

Dall’Alba V, Silva FM, Antonio JP, Steemburgo T, Royer CP, Almeida JC, Gross JL, et al. Improvement of the metabolic syndrome profile by soluble fibre — guar gum — in patients with type 2 diabetes: a randomized clinical trial. *British Journal of Nutrition*. 2013; 110(9): 1601–1610. doi: **10.1017/S0007114513001025**

McRorie JW, Fahey, G. A review of gastrointestinal physiology and the mechanisms underlying the health benefits of dietary fiber: matching an effective fiber with specific patient needs. *Clinical Nursing Studies*. 2013; 1(4): 82–92. doi: **10.5430/cns.v1n4p82**

McRorie JW Jr. Evidence-based approach to fiber supplements and clinically meaningful health benefits, part 1: what to look for and how to recommend an effective fiber therapy. *Nutrition Today*. 2015; 50(2): 82–89. doi: **10.1097/NT.0000000000000082**

McRorie JW Jr. Evidence-based approach to fiber supplements and clinically meaningful health benefits, part 2: what to look for and how to recommend an effective fiber therapy. *Nutrition Today*. 2015; 50(2): 90–97. doi: **10.1097/NT.0000000000000089**

Wolever TM, Tosh SM, Gibbs AL, Brand-Miller J, Duncan AM, Hart V, et al. Physicochemical properties of oat β -glucan influence its ability to reduce serum LDL cholesterol in humans: a randomized clinical trial. *American Journal of Clinical Nutrition*. 2010; 92: 723–732. doi: **10.3945/ajcn.2010.29174**