

## Supplement Sampler Milk Thistle (*Silybum marianum*)



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### **Best Indications**

- Liver disease, including alcoholic and viral hepatitis
- Diabetes mellitus, type 2

### **Mechanism of Action**

The seed of milk thistle contains silymarin, its active ingredient. Silymarin inhibits tumor necrosis factor, a signaling molecule that causes toxicity, inflammation, and cell death. Silymarin contains substances that act through antioxidant, anti-inflammatory, and immunomodulatory properties. In liver disease, silymarin is thought to alter the liver cell membrane to prevent toxins from entering, in addition to stimulating enzymes causing new liver cells to form. Silymarin also seems to decrease insulin resistance in diabetes through its antioxidant effects.

### **Best Studies**

- **Liver disease** – Preliminary research suggests that milk thistle may improve liver function tests (LFTs) in people with alcoholic liver disease or chronic viral hepatitis.<sup>1</sup> However, Cochrane Review from 2009 reports no significant effects of milk thistle on complications of liver disease or mortality in alcoholic liver disease, hepatitis B, or hepatitis C.<sup>2</sup>
- **Diabetes mellitus, type 2** – Milk thistle decreased fasting blood sugar by 20 points and hemoglobin A1c by 1% compared to placebo when taken at a dose of 200 mg three times daily for four months.<sup>3</sup>

### **Dose**

Take 200 mg three times daily.

### **Side Effects**

Well-tolerated, although rarely causes loose stools, bloating, or nausea. Milk thistle can cause an allergic reaction for people with allergies to ragweed or to other *Asteraceae/Compositae* substances.

### **Cost**

Typically \$20 per month (100 capsules).

### **Clinical Bottom Line**

Milk thistle may decrease LFTs in liver disease, although additional high-quality research is needed to assess its role in preventing complications and improving mortality. Additionally, milk thistle may be an effective adjunctive treatment for type 2 diabetes mellitus.



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## Milk Thistle

### **References**

1. [www.naturaldatabase.com](http://www.naturaldatabase.com)
2. Rambaldi A, Jacobs BP, Gluud C. Milk thistle for alcoholic and/or hepatitis B or C virus liver diseases. Cochrane Database of Systematic Reviews 2007, Issue 4. Art. No.: CD003620. DOI: 10.1002/14651858.CD003620.pub3.
3. Huseini HF, et al. The efficacy of Silybum marianum (L.) Gaertn. (silymarin) in the treatment of type II diabetes: a randomized, double-blind, placebo-controlled, clinical trial. [Phytother Res 2006;20:1036-9.](#)

*Brought to you by Anne Kolan, MD, and your colleagues in the University of Wisconsin-Madison Department of Family Medicine, Integrative Medicine Program.*

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