



Milk Thistle

©2009 Huntington College of Health Sciences

Literature Education Series On Dietary Supplements

By Gene Bruno, MS, MHS & Art Presser, PharmD

Smart Supplementation™ is a free series of educational literature created by Huntington College of Health Sciences (HCHS) as a public service. Although copyrighted, it may be freely photocopied and distributed, but may not be altered in any way. Smart Supplementation™ is not intended as medical advice. For diagnosis and treatment of any medical condition, consult your physician.

Latin name

Silybum marianum

Parts used

Fruit

Key Constituents

Flavonoids (silimarin, aka, silymarin)

Evidence Based Uses

- Regenerate liver cells
- Impede the advancement of cirrhosis
- Complement the treatment of hepatitis
- Liver protectant (occupational liver poisons, alcohol abuse, hepatotoxic pharmaceuticals, including chemotherapeutics)
- Impede fatty degeneration of liver

The active component in Milk Thistle are its flavonoids collectively called silimarin; and the majority of Milk Thistle-related research has been conducted on this component. Silimarin has long been recognized for its ability to benefit people with liver disorders. Research has found that at least 420 mg of silimarin daily was beneficial for sufferers of chronic viral hepatitis.¹ Other research

has suggested that silimarin may be more effective for hepatitis B as opposed to hepatitis C.² In the case of acute hepatitis, studies have shown mixed but promising results.^{3 4} One study in 1998 demonstrated that silimarin has the ability to block fibrosis, a process that contributes to the eventual development of cirrhosis in persons with inflammatory liver conditions secondary to alcohol abuse or hepatitis.⁵

Another key benefit of silimarin is its liver protective effect against damaging agents and toxins. Clinically, the administration of silimarin either oral or IV doses has resulted in significant protection against liver damage. One of the primary protective effects of silimarin is attributed to its antioxidant and free radicals scavenging properties.^{6 7}

Milk thistle also provides liver protection by stabilizing liver cell membranes. It alters the structure of the outer cell membrane in such a way as to prevent the penetration of the liver by toxins into interior of the cell. Milk Thistle also increases the regenerative ability of the liver and the formation of new liver cells. Further studies concluded that other actions of silymarin include preventing the recirculation of toxins and regeneration of damaged liver cells. Other studies indicate the silimarin in milk thistle has anticancer effects, and data suggests that milk thistle may prevent liver damage from liver poisoning prescription medications.^{8 9 10 11}

Other current and evidence based uses of

Milk Thistle include, but are not limited to: chemotherapy induced kidney damage¹² and gallstones¹³.

Dosage Range

175 mg extract standardized to $\geq 80\%$ silimarin ($\geq 30.0\%$ as a sum of silybin and isosilybin), two to three times daily.

Clinically Significant Cautions

None known.¹⁴

References

¹ Vailati A, Aristia L, Sozze E, et al. Randomized open study of the dose-affect relationship of a short course of IdB 1016 in patients with viral or alcoholic hepatitis. *Fitoterapia* 1993; 64:219-27.

² Lirussi F, Okolicsanyi L. Cytoprotection in the nineties: experience with ursodeoxycholic acid and silymarin in chronic liver disease. *Acta Physiol Hung* 1992; 80:363-7

³ Magliulo E, Gagliardi B, Fiori GP. Results of a double blind study on the effect of silymarin in the treatment of acute viral hepatitis carried out at two medical centers. *Med Klin* 1978; 73:1060-5.

⁴ Bode JC, Schmidt U, Durr HK. Silymarin for the treatment of acute viral hepatitis? Report of a controlled trial. *Med Klin* 1977; 72:513-8.

⁵ Schuppan D, Strösser W, Burkard G, Walosek G. Legalon® lessens fibrosing activity in patients with chronic liver diseases. *Zeits Allgemeinmed* 1998; 74:577-84.

⁶ Badr FM, El Habit OH, Harraz MM. Radioprotective effect of silymarin against radiation induced hepatotoxicity. *Pharmacol Res.* 2002; 45(6):447.

⁷ Buzzelli G, Moscarella S, Giusti A, et al. A pilot study on the liver protective effect of silybinphosphatidylcholine complex (IdB 1016) in chronic active hepatitis. *Int J Clin Pharmacol Ther Toxicol* 1993; 31:456-60.

⁸ Blumenthal M. *Herbal Medicine, Expanded Commission E Monographs*, 1st ed. Austin: American Botanical Council; 2000.

⁹ Brinker F. *Herb Contraindications and Drug Interactions*, 2nd ed. Sandy (OR): Eclectic Med; 1998.

¹⁰ Kohno H, et al. Silymarin, a naturally occurring polyphenolic antioxidant flavonoid, inhibits azoxymethane-induced colon carcinogenesis in male F344 rats. *Int J Cancer* 2002; 101(5):461-8.

¹¹ Tyagi A, et al. Antiproliferative and apoptotic effects of silibinin in rat prostate cancer cells. *Prostate* 2002; 53(3):211-217.

¹² Nassuato G, et al. Effect of silibinin of biliary lipid composition: experimental and clinical study. *J Hepatol.* 1991; 12:290-295.

¹³ Sonnenbichler J, et al. Stimulatory effects of silibinin and silicristin from the milk thistle on kidney cells. *J Pharmacol Exp Ther*; 1999;290:1375-1383.

¹⁴ McGuffin M, Hobbs C, Upton R, Goldberg A (eds). *American Herbal Products Association's Botanical Safety Handbook*: Boca Raton: CRC Press; 1997.



For more than two decades, Huntington College of Health Sciences (HCHS) has offered more than a conventional undergraduate or graduate education. Our accredited*, distance learning degrees and diploma programs also include the breadth of responsible complementary and alternative medicine viewpoints, providing our students with a well-rounded and comprehensive approach to nutrition and the health sciences:

- Master of Science in Nutrition
- Bachelor of Health Science in Nutrition
- Associate of Science in Applied Nutrition
- Diploma in Comprehensive Nutrition
- Diploma in Dietary Supplement Science
- Diploma in Sports Nutrition
- Diploma in Women's Nutrition
- Diploma in Natural Sciences
- Diploma in Small Business Management

1204D Kenesaw
Knoxville, TN 37919
865-524-8079 • 800-290-4226
E-Mail: studentservices@hchs.edu
www.hchs.edu.com

*Accredited member Distance Education & Training Council.