

# Milk Thistle

*175 mg Standardized Extract with Artichoke*



## DESCRIPTION

Milk Thistle capsules contain 175 mg of milk thistle extract, standardized to contain a minimum of 80% silymarin. Milk Thistle capsules are free of lactose and other common allergens.

## FUNCTIONS

Milk thistle, a common herb native to the Mediterranean, has been widely used for its nutritional support of liver function for over 2000 years. Fruits (often mistakenly referred to as seeds) of the dried milk thistle flower are rich in three flavonolignins: silybin, silydianin, and silychristin. Together, these are known as silymarin, the bioflavonoid complex responsible for milk thistle's powerful protective and regenerative activities in the liver.

The liver is the body's detoxifying organ, disabling toxins such as ethanol, environmental poisons, pesticides, and certain pharmaceuticals. In addition to its detoxification properties, the liver plays an essential role in protein, carbohydrate, and lipid metabolism, cholesterol synthesis, bile secretion, and storage of fat-soluble vitamins. When damaged or diseased, the liver's ability to eliminate toxins and perform its numerous other functions may be severely impaired.

Silymarin enhances normal, healthy hepatic function through three primary actions. Silymarin protects liver cells by blocking hepatotoxic substances from crossing cell membranes, serves as an antioxidant, and stimulates cell regeneration.

Silymarin protects liver cells by acting at the cell membrane. By binding to the outer membrane, silymarin prevents harmful toxins from entering the cell, thereby protecting against liver intoxication. Silymarin appears effective in protecting the liver from deleterious effects of both acute and chronic toxin exposures, including that of ethanol, hepatotoxic medications, such as excessive acetaminophen, poisonous fungi, and environmental pollutants.

Silymarin further protects the liver as an important component of the liver's antioxidant defense. The liver generates potentially damaging, toxic free radicals and reactive oxygen

species (e.g., peroxides) as a result of its normal metabolic and detoxifying functions. Left unchecked, these radicals can initiate a chain reaction of lipid peroxidation, causing damage to cell structure and interfering with normal cell functions. Fortunately, silymarin interrupts this course of free radical damage.

As an antioxidant, silymarin quenches free radicals, thus protecting against lipid peroxidation. Further, silymarin enhances levels of glutathione and superoxide dismutase, two primary antioxidants in the liver. As a consequence of its antioxidant activities in the liver, silymarin decreases the free radical quenching load of glutathione, thus sparing it from depletion. Similarly, silymarin spares superoxide dismutase in the liver cell, thereby increasing both the amount and activity of superoxide dismutase in both hepatic and red blood cells.

In addition to its protective functions, silymarin stimulates damaged liver cells to regenerate. In the cell nucleus, silymarin activates ribosomal RNA via RNA polymerase 1, leading to increased production of ribosomes. By augmenting the production of ribosomes, the cell organelle responsible for protein synthesis, silymarin stimulates protein synthesis in the damaged cell. This results in expedited cell regeneration, the replacement and repair of damaged cells.

Milk Thistle is a significant source of silymarin, a powerful bioflavonoid complex that has antioxidant, protective, and regenerative functions in the liver. Milk thistle's role in protecting and supporting healthy liver function is well documented in the scientific literature.

## INDICATIONS

Milk Thistle capsules may be a useful nutritional adjunct for individuals who wish to enhance healthy hepatic function through the natural protective and regenerative properties of this herb. Milk Thistle may be especially well suited for individuals with excessive or chronic exposure to environmental toxins, pesticides, alcohol, hepatotoxic pharmaceuticals, and other substances damaging to the liver.

**More information on following page**

## FORMULA (WW #10110)

### 1 Capsule Contains:

Milk thistle seed extract .....	175 mg
<i>(Silybum marianum)</i>	
(Standardized to 80% [140 mg] Silymarin)	
Turmeric root extract powder .....	50 mg
<i>(Curcuma longa)</i>	
(Standardized to 95% [48 mg] Curcumin)	
Artichoke leaf extract powder .....	20 mg
<i>(Cynara scolymus)</i>	
(Standardized to 2% [0.4 mg] Cynarin)	

Other Ingredients: capsules (gelatin and water), rice powder, magnesium stearate, and silica.

This product contains NO added sugar, salt, dairy, yeast, wheat, gluten, corn, soy, preservatives, artificial colors or flavors.

## SUGGESTED USE

As a dietary supplement, adults take 1 capsule, 3 times daily with meals, or as directed by a healthcare professional.

## SIDE EFFECTS

Warning: Consult your physician prior to using this product if you are pregnant or nursing, taking medications, or have a medical condition. Discontinue use two weeks prior to surgery.

## STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

## REFERENCES

- Davila, JC et al. Protective effect of flavonoids on drug-induced hepatotoxicity in vitro. *Toxicology* 1989;57(3):276-286.
- Dehmlan, C et al. Inhibition of Kupffer cell functions as an explanation for the hepatoprotective properties of silibinin. *Hepatology* 1996;23(4): 749-759.
- Ferenci, P et al. Randomized, controlled trial of silymarin treatment in patients with cirrhosis of the liver. *J Hepatol* 1989;9(1):105-113.
- Flora, K et al. Milk thistle (*Silybum marianum*) and the treatment of liver disease. *Am J Gastroenterol* 1998;93(2):139-43.
- Hakov'a, H and E Misurova. The effect of silymarin and gamma radiation on nucleic acids in rat organs. *J Pharm Pharmacol* 1993;45(10):910-912.
- Mira, L, Silva, M, and CF Mansu. Scavenging of reactive oxygen species by silibinin dihemisuccinate. *Biochem Pharmacol* 1994;40(4):753-759.
- Muriel, P et al. Prevention by silymarin of membrane alterations in acute Ccl4 liver damage. *J Appl Toxicol* 1990;10(4):275-279.
- Muriel, P et al. Silymarin protects against paracetamol-induced lipid peroxidation and liver damage. *J Appl Toxicol* 1992;12(6):439-442.
- Parish, RC et al. Treatment of Amanita mushroom poisoning: a review. *Vet Hum Toxicol* 1986;28(4):318-327.
- Pifferi, G et al. Synthesis and antihepatotoxic activity of silybin H-Ophosphate. *Farmaco* 1994;49(1):75-76.
- Utrella, MP et al. Natural products with hepatoprotective action. *Methods Find Exp Clin Pharmacol* 1996;18 Suppl B:11-12.
- Valenzuela, A et al. Selectivity of silymarin on the increase of glutathione control in different tissues of the rat. *Planta Med* 1989;55(5):420-422.
- Wu, CG et al. Protective effect of silymarin on rat liver injury induced by ischemia. *Virchows Arch B Cell Pathol Include Mol Pathol* 1993;64(5):259-263.
- Zi, X et al. Novel cancer chemopreventive effects of a flavonoid antioxidant silymarin: inhibition of mRNA expression of an endogenous tumor promoter TNF alpha. *Biochem Biophys Res Commun* 1997;239(1):334-339.

Manufactured For:

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