Milk Thistle with eTHIS-094®

INGREDIENTS
Milk thistle (Silybum marianum) has been traditionally used in Europe as an herbal remedy for a variety of ailments, with a focus on conditions that affect liver health. Today, milk thistle dietary supplements are widely used in the U.S. and Europe by people concerned with liver health.1-14 The active compounds are commonly referred to collectively as silymarin (sometimes as flavonolignans) which actually refers to six structurally related compounds: silybin A, silybin B, isosilybin A, isosilybin B, silychristin and silydianin, as well as other minor polyphenolic compounds.1,9 Milk thistle seeds are 4% to 6% silymarin. Supplements typically contain a seed extract standardized to 80% silymarin content.

Absorption after oral consumption is thought to be in the range of 20 to 50%.4 Once absorbed, the silymarin compounds undergo multiple conjugation reactions, i.e., metabolic modifications. Human pharmacokinetic studies report that the unmodified compounds and their sulfate and glucuronide conjugates can all be found circulating in the blood. The majority of excretion is thought to be via bile and from there into fecal excretion, as very little ends up in urine.

Animal and human research results suggest that milk thistle extract has value for people with drug and alcohol induced liver damage, exposure to various environmental toxins. The beneficial mechanisms of milk thistle extract are thought to include antioxidant, immuno-modulatory, anti-fibrotic, anti-proliferative, anti-toxin and anti-viral properties.1-14

BENEFITS
Helps support liver function*
Milk thistle is thought to support normal liver functions compromised by disease - as distinct from treating those diseases. Rambaldi reviewed 13 clinical trials on use of milk thistle extract for patients with alcoholic liver damage or hepatitis B or C viral liver disease. Treatment resulted in a significant lowering of liver disease related deaths and a trend for lowering all-cause mortality.7 A meta-analytical review published a year later and incorporating much the same evidence reached similar conclusion for lower risk of liver disease deaths. This review saw no significant benefit for viral liver disease. Of blood tests considered indicative of liver health, the liver enzyme aspartate aminotransferase was reduced in the silymarin-treated groups (p = 0.01) while alkaline phosphatase was not.6

Loguercio, in a review published in 2011, added observations on benefits in the milder form of liver damage referred to as non-alcoholic fatty liver disease. From the review: “The [milk thistle] treatment induced a significant reduction of plasma markers of chronic inflammation (C-reactive protein and cytokines), metabolic parameters (triglycerides, cholesterol, insulin resistance), liver tests (transaminases and gamma-glutamyl transpeptidase), degree of ultrasonographic liver steatosis and, finally, of main indices of liver fibrosis: metalloproteinase 2, TGF-β and hyaluronic acid.”14

Wei conducted a review with a focus on hepatitis B virus liver damage, looking at silymarin alone or in combination with prescription drugs intended to either reduce the viral load or protect the liver from damage. Silymarin was equivalent to antiviral or liver protecting drugs for restoring normal levels of circulating transaminases (biomarkers of liver damage), viral load and hepatic fibrosis markers.1

Not all of the individual clinical trials reported positive results. In a trial reported in the Journal of the American Medical Association (JAMA), hepatitis C patients that had failed interferon treatment and had highly elevated serum alanine aminotransferase (ALT) concentrations were treated for 24 weeks with placebo, 1260 or 2100 mg/day of silymarin, (much higher than typical doses). Serum ALT and liver viral load were not affected by treatment.10 It is possible that damage was too advanced to be affected by the treatment.

In addition to helping restore liver health damaged by alcoholic or viral liver diseases, milk thistle is also thought to protect the liver from damage by toxins, either environmental or medicinal. The theory here is that the antioxidant activity of silymarin reduces damage by free radicals.1-14

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<th>Supplement Facts</th>
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<td>Serving Size</td>
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<td>Servings per container</td>
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<tr>
<td>Amount per serving</td>
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<tr>
<td>Milk Thistle Seed Extract</td>
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<tr>
<td>(Standardized to contain 80% Silymarin isomers: Silybin A and Silybin B, Isosilybin A and Isosilybin B, Silychristin and Silydianin)</td>
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<td>† Daily Value not established.</td>
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Other ingredients: Modified cellulose (vegetarian capsule), microcrystalline cellulose, silicon dioxide, calcium stearate (vegetable source).

Suggested Adult Use: Take 2 capsules daily before a meal, or as recommended by a nutritionally-informed physician.

Non-GMO / Gluten Free / Soy Free / Vegan Store in a cool dry place.

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.
The question of milk thistle and liver health remains an active research topic. In a government-maintained database of clinical trials [www.clinicaltrials.gov], eight trials are listed as currently recruiting or about to begin recruiting subjects. Future results may help clarify some of the uncertainties.

SAFETY
Clinical trials report silymarin side effects no different from what was seen in the placebo control groups. Loguercio’s review cited some evidence for possible adverse effects at doses greater than 10 g/day.4

SCIENTIFIC REFERENCES


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