



MILK THISTLE EXTRACT



Milk Thistle

Silybum marianum (Compositae / Asteraceae) is an annual or biennial thistle-like plant.

Milk thistle (*Silybum marianum*) is a member of the aster family with a long history of medicinal use. Today the plant is recognized by herbalists for its healing effects on one of the most important organs in the body—the liver.

History

Milk thistle was first revered as an antidote for liver toxins in the middle Ages and was later used by the British herbalist Culpepper to relieve obstructions of the liver. Native Americans have used milk thistle to treat boils and other skin diseases. Homeopathic practitioners have used preparations from the seeds to treat a variety of illnesses, including jaundice, gallstones, peritonitis, hemorrhage, bronchitis, and varicose veins, and currently use milk thistle to treat liver dysfunction.

It protects liver and kidney cells from toxic effects of drugs, including chemotherapy. There is strong preclinical evidence for silymarin's hepatoprotective and anticarcinogenic effects, including inhibition of cancer cell growth in human prostate, skin, breast, and cervical cells.

Chemical Constituents

Silymarin accounts for 1.5–3 percent of the dry weight of the fruit and is an isomeric mixture of unique flavonoid-flavonolignan complexes. Silymarin, isosilybin, silychristin, isosilychristin, silydianin and silimonin are the main representatives of this group. The chemical composition of milk thistle fruit in addition to flavonolignans also include other flavonoids (such as xifolin, quercetin, dihydrokaempferol, kaempferol, apigenin, naringin, eriodictiol, and chrysoeriol), 5,7-dihydroxy chromone, dehydroconiferyl alcohol, fixed oil (60% linoleic acid; 30% oleic acid; 9% palmitic acid), tocopherol, sterols (cholesterol, campesterol, stigmasterol, and sitosterol), sugars (arabinose, rhamnose, xylose, and glucose), and proteins.

How it works

The active constituents in milk thistle include betaine, essential fatty acids, trace minerals, and a group of flavono-lignans collectively known as silymarin. These constituents work together to prevent liver damage and enhance detoxification through several key mechanisms.

Alcohol and toxic chemicals can deplete the system of glutathione, which is responsible for destroying harmful compounds and free radicals.

Silymarin not only prevents the depletion of glutathione but has been shown to actually increase glutathione levels in individuals with normal liver function.

Milk thistle alters cell membranes so that only small amounts of toxins can penetrate liver cells and helps increase hepatocyte protein synthesis, a process where by cells produce essential proteins needed for the regeneration and repair of liver cells. Milk thistle also acts as an anti-inflammatory for the liver and spleen, supports immune function, and is known for its potent antioxidant properties.

Where it works

Recommended for chronic pancreatitis caused by alcohol abuse and to prevent the formation of gallstones, milk thistle improves digestion and stimulates the flow of bile through the liver and gallbladder. It also helps balance cholesterol levels and, when combined with burdock seed tincture, is useful for dry, itchy, scaly skin conditions such as psoriasis and dry eczema.

Milk thistle protects liver cells and reverses the effects of highly toxic alkaloids such as phalloidin in cases of Amanita phalloides mushroom poisoning. In addition, it stimulates milk flow in breast-feeding mothers and has a mild laxative effect.

Many chemotherapy drugs can cause harmful side effects, including liver damage. Preliminary findings of a randomized pilot study conducted by the National Cancer Institute in 2005 showed that there was no evidence of an adverse interaction between milk thistle and chemotherapy drugs used to treat acute lymphoblastic leukemia, a common form of cancer in children. The study also demonstrated that in some cases milk thistle produced a noticeable improvement in lessening the effects of liver toxicity during chemotherapy treatment.

A recent laboratory trial published in the Journal of the National Cancer Institute concluded that milk thistle appeared to slow the progression of lung cancer in mice. After six months researchers found smaller lung tumors, fewer new blood vessels in the tumors, and lower levels of cancer-promoting chemicals in the silymarin test group.

Health Benefits of Milk Thistle

- Milk thistle may protect liver cells by inhibiting the influx of various damaging toxins and eliminating the entrapped toxins from the liver cells.
- Silymarin has neuroprotective effects on the body.
- Declines in their blood sugar levels when compared with patients who consumed only a prescribed anti-diabetic drug.
- Silymarin is safe and effective to enhance the milk production in lactating mothers.
- Preventing the progression of osteoporosis and there by leads to an overall less progression of bone loss.

- Silibinin markedly reduced the proliferation, migration, and invasion and induced apoptosis of T24 and UM-UC-3 human bladder cancer cells.
- Biochemical data suggests the beneficial effects of milk thistle in treating skin conditions like acne.

Specification

Common Name	Milk Thistle
Botanical Name	<i>Silybum marianum</i>
Family	Asteraceae
Plant Part Used	Seeds
Active Constituent	Silymarins
Appearance	Yellow and brown powder
Identification	Positive by TLC
Shelf Life	3 Years
Storage Condition	Cool & Dark Dry Place

Available Grades

- Milk Thistle Extract Total Silymarins $\geq 70\%$ By UV
- Milk Thistle Extract Total Silymarins $\geq 80\%$ By UV
- Milk Thistle Extract Total Silymarins $\geq 80\%$ & Silybin $> 50\%$ By HPLC (Granular & Powder form)

References

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