

Hepatatone Plus™



Synergistic liver support formula

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Hepatatone Plus™ is formulated to help support and improve liver function, reduce elevated liver enzymes, and reduce fibrotic tissue damage generated by various liver conditions. Cases of severe liver disease continue to grow domestically with close to 45,000 people a year in the U.S. dying just from hepatitis and cirrhosis. Statistics from the CDC rank mortality related to chronic liver disease and cirrhosis as the twelfth most common cause of death in adults in the U.S., including diseases such as viral hepatitis, liver cancer and obesity-related fatty liver diseases.

The causes of hepatitis (inflammation of the liver) are primarily related to viruses, alcohol abuse, obesity (non-alcoholic steatohepatitis or NASH) and hepatotoxicity due to drug/chronic medication/toxin related issues. Cirrhosis is the final phase of chronic liver disease and is characterized by damaged, scarred tissue and significant liver dysfunction, which can, in serious cases, result in the need for liver transplantation.

Non-alcoholic fatty liver disease (NAFLD), also known as steatohepatitis, is an inflammation of the liver caused by an accumulation of fat deposits in liver tissue. In most people, the primary underlying problems are obesity, diabetes or both. NAFLD typically shows up as an unexpected abnormality in liver function tests, usually the alanine aminotransferase (ALT) test, in people who otherwise feel well. However, if the underlying cause, such as obesity or diabetes, is not treated, the condition may progress. As a result, NAFLD is now among the most common reasons that patients are referred for liver transplantation. Elevated liver enzymes, typically ALT and aspartate transaminase (AST), can be brought on not only by NAFLD, but also by a wide range of medical conditions, most typically from hepatitis, medications, alcohol and obesity.

Supplement Facts			
Serving Size 4 capsules			
Servings Per Container 30			
Amount Per Serving	% Daily Value	Amount Per Serving	% Daily Value
N-Acetyl-L-Cysteine	600 mg *	Milk Thistle (<i>Silybum marianum</i>)(seed)	500 mg *
		[standardized to contain 80% silymarin]	
Reishi Full Spectrum (<i>Ganoderma lucidum, Ganoderma applanatum</i>) (mycelium, fruiting body, primordia, spores and extracellular compounds)	500 mg *	Chinese Skullcap Extract (<i>Scutellaria baicalensis</i>)(root)	300 mg *
		[standardized to contain 30% flavones]	
Cordyceps (as CordycepsPrime™) (<i>Cordyceps sinensis</i>)(mycelium)	500 mg *	Schisandra Extract (<i>Schisandra chinensis</i>)(fruit)	250 mg *
		Burdock Extract (<i>Arcium lappa</i>) (root)	250 mg *
[standardized to contain 8% cordycepic acid and 0.28% adenosine] (from soy)			

*Daily Value not established.

Ingredients: Cellulose (capsule), vegetable stearate.

CordycepsPrime™ is a trademark of NuLivScience.



Hepatatone Plus™ may be beneficial for:

- ▶ Hepatitis
- ▶ Cirrhosis
- ▶ Liver fibrosis
- ▶ Non-alcoholic fatty liver disease
- ▶ Elevated liver enzymes

Highlights

N-Acetyl-Cysteine (NAC), a derivative of the amino acid cysteine, has powerful antioxidant and liver-protective actions. In addition to protecting the body from oxidative damage, NAC up-regulates the formation of glutathione, the predominant antioxidant found in the liver. Glutathione depletion can be a significant complicating factor in liver disease pathology.

NAC is the classic antidote for acetaminophen-induced hepatotoxicity¹ and has been shown to modulate inducible nitric oxide synthase (iNOS), the enzyme responsible for the formation of nitric oxide, a known promoter of liver injury.² NAC also modulates NF-kappaB mRNA transcription, which reduces the inflammatory response,³ thus affecting another factor in the genesis of liver injury.



The fungus **Cordyceps sinensis** can help improve immune function by enhancing NK cell activity. In clinical use for hepatitis B and liver fibrosis, cordyceps was shown to improve the ratio of CD4/CD8 t-lymphocytes.⁴ In animal models of hepatic fibrosis, it ameliorated symptoms by down-regulating TGF Beta, a protein that controls cellular proliferation and differentiation and also plays an important role in the regulation of the immune system.⁵ Cordyceps demonstrates liver-protective properties by reducing elevated liver enzymes⁶ and lipid oxidation, a mechanism of liver tissue damage.⁷



Reishi, known as the “mushroom of immortality” in China, possesses anti-inflammatory, antiviral, immune-modulating, anti-cancer and antioxidative properties. Reishi has been shown to increase Th1 immune activity in vivo⁸ and to inhibit the replication of the hepatitis B virus in vitro.⁹

In models of hepatic damage, reishi was shown to improve liver function and decrease liver tissue damage by decreasing liver enzymes and by up-regulating endogenously-produced antioxidants such as glutathione, SOD and catalase.^{10,11} Reishi may also decrease liver fibrosis by reducing mRNA formation of liver collagen¹² and by decreasing inflammatory markers such as TNF- α .¹³



Schisandra has a long history of use in Chinese medicine for viral hepatitis.¹⁴ Schisandra supports liver health by decreasing hepatic levels of total cholesterol and triglycerides while also increasing liver weights in animal models of hypercholesterolemia.¹⁵ Schisandra also increases liver cytochrome P450 activity¹⁶ and decreases liver enzymes¹⁷ while promoting serum protein biosynthesis and glycogenesis, which is important in liver cell repair.¹⁴



Chinese skullcap (*Scutellaria baicalensis*) has been used in traditional Chinese medicine for allergies, infections, inflammation, cancer, and headaches. Extracts of this herb possess antioxidative, anti-inflammatory, antiviral and antibacterial properties, while inhibiting cellular mutagenicity.¹⁸ In animal models of liver injury, skullcap was shown to be hepatoprotective by increasing the Th1 immune response¹⁹, limiting histopathological tissue damage and reducing liver enzymes while decreasing mortality.²⁰ Skullcap has also been shown to be an effective protective agent against hepatitis as well.²¹ Note that Chinese skullcap should not be confused with American skullcap, which is a completely different plant. They are used for different conditions and are not interchangeable.



Burdock root (*Arctium lappa*) has a long history in herbal medicine where it has been used as a blood purifier and to help with many ailments including measles, arthritis, tonsillitis, viruses (such as colds), throat pain, and also as a diuretic.

Animal studies suggest that burdock root may protect the liver against damage and injury caused by acetaminophen as well as carbon tetrachloride toxicity and chronic ethanol consumption.^{22, 23} Its hepatoprotective activity may partially be linked to the plant's antioxidative and anti-inflammatory properties,^{24, 25} which reduce the tissue-damaging effects of the oxidative stress liver cells are exposed to.



Milk thistle has been found especially useful in liver-related conditions. Its active ingredient, silymarin, is actually a group of flavonoids (silibinin A and B, isosilibinin A and B, silidianin, and silicristin) that in studies of liver disease and liver injury has demonstrated potent antioxidative, anti-inflammatory, hepatoprotective, anti-fibrotic and liver cell regenerative characteristics.^{26, 27} In vivo studies have demonstrated milk thistle's powerful antiviral properties in patients with hepatitis C who were non-responders to interferon therapy.²⁸ Researchers have found that milk thistle seed extracts reduced liver enzyme levels more effectively than the standard hepatic drug hepaticum.²⁹

How To Use:

- ▶ 2 capsules twice a day for general maintenance and liver support, up to 4 capsules three times a day may be used for severe liver disease long term. A decrease in liver enzymes can dictate a subsequent lowering of dosage.

For a list of references cited in this document, please visit:
<http://mkt.s.designsforhealth.com/techsheets/HepatatonePlusReferences.pdf>

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