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LIVER SUPPORT

CLINICAL APPLICATIONS

- *Boosts Liver Health*
- *Supports Phase I and II Liver Detoxification*
- *Increases the Body's Production of Bile*
- *Supports Immune Balance in Hypersensitive Individuals*

DETOX SUPPORT

The specialized blend of nutrients in LIVER SUPPORT has been shown to support both Phase I and II liver detoxification processes, while promoting overall liver health. Each capsule includes silymarin (milk thistle seed extract), artichoke leaf extract, turmeric root extract, methionine, choline, inositol, garlic, and dandelion root extract. These botanicals and plant extracts contain phytonutrients, antioxidants, and other compounds known for their liver health benefits and detoxification support. LIVER SUPPORT is also available in the Core Restore® program.

Overview

The human body is exposed to a wide variety of toxins on a daily basis. The liver is the body's main detoxification organ and provides enzyme systems that safely process and remove toxins. These detoxification systems are very complex and require a variety of nutrients for optimal function.

There are two main pathways of detoxification in the liver, known as Phase I and Phase II. Phase I, composed mainly of cytochrome P450 enzymes, involves non-reactive compounds undergoing specific reactions which use oxygen to form a reactive site on the compound. This prepares the metabolite for the next step of detoxification, known as Phase II. Phase II is a crucial step— if molecules from Phase I are not fully metabolized by Phase II conjugation, they may cause free radical damage to proteins, RNA and DNA within the cell. Phase II reactions result in the biotransformation of fat-soluble compounds into water-soluble compounds that can then be excreted in the urine, bile or stool. LIVER SUPPORT'S botanicals and plant extracts contain phytonutrients, antioxidants and other compounds that naturally protect plants from environmental challenges including exposure to radiation, toxins and other agents. In humans, these biologically active compounds have been shown to increase cellular defenses, up-regulate liver detoxification pathways and protect DNA.[1,2]

Silymarin (Milk Thistle Seed Extract)†

Milk thistle *(Silybum marianum)* is an annual plant indigenous to Europe and the United States and has been used for centuries as a botanical medicine to boost liver health. *S. marianum* contains silymarin, the biologically active component found in the seeds and leaves of this plant. Silymarin boosts liver health via several mechanisms of action including inhibiting lipid peroxidation,[2] supporting liver detoxification through enhancement of the liver's glucuronidation pathways,[3] and protection against glutathione depletion.[4] Silymarin has been shown to increase hepatocyte protein synthesis resulting in enhanced detoxification function.[5]

Artichoke Leaf Extract†

Artichoke is one of the oldest cultivated plants. The ancient Greeks and Romans considered artichoke to be a valuable digestive aid. Artichoke leaf extracts have been shown to provide antioxidant and liver support.[6] In a double-blind crossover study in 20 subjects, artichoke extract was shown to increase the body's production of bile.[7] Animal studies have shown that artichoke protected liver cells against oxidative stress and prevented loss of glutathione.[8-10]

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Turmeric (Complete Turmeric Matrix)†

Whole-root turmeric and its active components have been used in traditional Ayurvedic medicine for centuries. In herbal medicine of old, practitioners used teas, tinctures and extracts of all types. In the 21st century, as research grew on the benefits of turmeric, the focus shifted to identifying and isolating one individual compound, curcumin, rather than delivering the comprehensive benefits of a matrix of turmeric bioactives. As a result, concentrating curcumin led to poor absorption and pharmaceutical methods were applied to bypass the gut and increase its bioavailability. The glaring disadvantage of applying this pharmaceutical model to botanicals is that it misses the benefits of other bioactives present within the turmeric matrix and their positive effects on the microbiome. New research on turmeric shows the additional bioactives in turmeric have additional benefits and enhance bioavailability. The Complete Turmeric Matrix includes compounds from the entire turmeric root, all working together as nature intended to deliver better results. The Complete Turmeric Matrix formulation contains standardized amounts of 45%–55% curcuminoids, 2%-6% turmerin protein and 3%-8% volatile oil, plus other components that make up the whole turmeric root. This matrix of bioactive compounds supports a healthy GI tract, enhances detoxification, creates a healthy microbiome, and helps maintain normal inflammatory balance.

Specifically, turmeric and its phytonutrients, like curcumin, have been shown to support Phase I and II liver detoxification. Curcumin elevates cellular levels of glutathione, one of the body's major antioxidants that protects cells against free radical damage.[11] It has also been shown to increase glutathione S-transferase (a Phase II detoxification enzyme), as well as the enzymes superoxide dismutase (SOD), catalase, and glutathione peroxidase which results in a significant increase in a variety of antioxidant defenses.[12]In a study examining the effects of curcumin on cells loaded with arsenic, it effectively counteracted the effects of arsenic by increasing the activity of the primary detoxification enzymes SOD, catalase and glutathione peroxidase.[12]

Garlic†

Garlic is a well-known spice with a number of health-promoting properties. In an animal study, the effects of garlic on hepatic cells were examined following exposure to the toxic heavy metal, arsenic. Arsenic administration resulted in generation of free radicals, specifically reactive oxygen species (ROS), which caused cell damage. The ROS generation in hepatic tissue reverted to normal values following the administration of garlic extract indicating the strong liver-protecting effect of garlic.[13]

Dandelion Root Extract†

Dandelion (*Taraxacum officinale*) is a native plant to the United States and Europe, where the leaves and roots have been used as food and herbal medicine. The German Commission E and European Scientific Cooperative for Phytotherapy have approved the use of dandelion root to support liver health and increase the body's production of bile. Studies conducted in animals have shown that dandelion root increases bile secretion as well as glutathione peroxidase, glutathione reductase and SOD.[14, 15]

Methionine and Choline†

Studies have shown that the nutrients methionine and choline play a significant role in boosting liver health. Methionine and choline act as lipotropic agents which aid in fat metabolism as well as mobilization of fat out of the liver. In a study examining the effects of choline in 60 men it was found that consumption of 550 mg of choline per day supported the health and function of the liver, as assessed by measuring serum alanine aminotransferase concentrations.[16]

Directions

2-3 capsules two times per day or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, artificial colors or flavors.

Cautions

Do not consume this product if you are pregnant or nursing. Consult your physician for further information.

Supplement Facts V4

Serving Size 3 Capsules
Servings Per Container 6 & 40

	Amount Per Serving	% Daily Value
Choline (as Choline Bitartrate)	72 mg	13%
Dandelion Root Extract	225 mg	*
Artichoke Leaf Extract (Standardized to contain 5% Cynarin)	145 mg	*
Inositol NF	140 mg	*
L-Methionine USP	140 mg	*
Milk Thistle Seed Extract (Standardized to contain 58% Silymarin)	130 mg	*
Garlic Bulb	100 mg	*
Turmeric Root Extract (Complete Turmeric Matrix) (Standardized to contain 45-55% Curcuminoids, 3-8% Volatile Oil, 2-6% Turmerin)	100 mg	*

* Daily Value not established.

Other Ingredients: Hypromellose (Natural Vegetable Capsules), Microcrystalline Cellulose, Magnesium Stearate and Silicon Dioxide.

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