

# Hepasil DTX<sup>™</sup> ■ •• H

# Comprehensive liver support formula that promotes and balances the body's detoxification processes\*

The liver is the body's second largest organ and its largest gland. It manufactures many important blood proteins; assists in the conversion of fats, amino acids, vitamins, and minerals into more usable forms; makes important structural components, including cell membrane compounds; filters toxins from the blood; and stores many vitamins and minerals, including iron and B12. The **Hepasil DTX** supplement was formulated to provide a unique blend of antioxidants to help support healthy liver function.\*

ITFM #135

## Milk-Thistle Extract

Used as a natural remedy to support liver health for more than 2,000 years, milk thistle is used by the liver to protect against oxidative stress. Additionally, it stimulates liver detoxification pathways and has strong antioxidant properties thought to help strengthen and protect liver cells.\*

As an antioxidant, milk thistle helps increase the amount and the activity of several antioxidant enzyme systems that are involved in the detoxification process, such as superoxide dismutase (SOD) and the glutathione peroxidase system. The active phytochemicals in milk thistle may also stimulate protein synthesis in liver cells, which helps to regenerate them.\*

# Alpha Lipoic Acid

Alpha lipoic acid is easily transported across cell membranes to provide support to the important enzymes both inside and outside the cell. Because it is both water- and oil-soluble, it is thought to help regenerate both water- and oil-soluble antioxidants.\*

## Turmeric Extract

Turmeric, the powdered root of the plant *Curcuma longa L.*, is a member of the ginger family native to India and Southeast Asia. It contains curcumin and related compounds known as curcuminoids, which have significant antioxidant properties.\*

## Choline

Choline supports healthy liver function by donating methyl groups necessary for detoxification reactions. Choline-phospholipids are extremely important structural elements of cells and are essential for the normal processing of dietary fat, a key function of the liver. In addition, adequate choline intakes have been associated with lower levels of plasma homocysteine, meaning choline can also play a role in hearth health. **Hepasil DTX** is an excellent source of choline.

# N-Acetyl-L-Cysteine

N-acetyl-L-cysteine is an essential precursor for glutathione. Glutathione is an important antioxidant that scavenges free radicals inside and outside the cell and promotes detoxification. Its extra-cellular activity helps protect the liver from free radicals and toxins.\*

## Nutritional Hybrid Technology

**Hepasil DTX** employs USANA's innovative Nutritional Hybrid Technology. This state-of-the-art approach to formula design and manufacture features bilayer tableting: the separation of various formula ingredients into two distinct tablet layers. Now, for the first time, previously distinct products can be joined into a single formula. Incompatible ingredients can be combined in a single tablet. And key nutritional ingredients can be visually highlighted in distinct tablet layers USANA's Nutritional Hybrid Technology opens the door to accelerated innovation in supplement design and manufacture. Proudly, USANA is among the first in the world to use Nutritional Hybrid Technology.

# Why Hepasil DTX™?

The unique formulation of **Hepasil DTX** helps to combat oxidative stress in the liver with a powerful blend of antioxidants, including green-tea extract and broccoli concentrate. It also includes USANA's patented Olivol® for more complete antioxidant support. With 240 mg of high-quality, highly bioavailable milk-thistle extract, **Hepasil DTX** provides comprehensive support for the liver.\*



# From the Lab

A USANA study revealed that the recommended dosage of Hepasil DTX is able to boost levels of vitamin C and glutathione. Both are powerful antioxidants. Plus, vitamin C binds to and helps facilitate the removal of toxins from the body. Glutathione also acts as an intermediary/conjugate in the detoxification process.

#### References

- Gazak R, Walterova D, Kren V. Silybin and Silymarin New and Emerging Applications in Medicine. 2007. Current Medicinal Chemistry 14(3):315-38.
- Jiao HL, Ye P, Zhao BL. Protective effects of green tea polyphenols on human HepG2 cells against oxidative damage of fenofibrate. 2003. Free Radic Biol Med 35/91-1121-8
- Kall MA, Vang O, Clausen J. Effects of dietary broccoli on human in vivo drug metabolizing enzymes: evaluation of caffeine, oestrone and chlorzoxazone metabolism.
   1996. Carcinogenesis 17(4):793-9.
- Lang I, Deak G, Muzes G, Pronai L, Feher J. Effect of the natural bioflavonoid antioxidant silymarin on superoxide dismutase (SOD) activity and expression in vitro.
   1993. Biotechnol Ther 4(3-4):263-70.

Dető DTX

- Manna C, Galletti P, Cucciolla V, Montedoro G, Zappia V. Olive oil hydroxytyrosol protects human erythrocytes against oxidative damages. 1999. J Nutr Biochem 10(3):159-65.
   Manna SK, Mukhopadhyay A, Van NT, Aggarwal BB. Silymarin suppresses TNF-induced activation of NF-kappa B, c-Jun N-terminal kinase, and apoptosis. 1999.
- Manna SK, Mukhopadhyay A, Van NT, Aggarwal BB. Silymarin suppresses TNF-induced activation of NF-kappa B, c-Jun N-terminal kinase, and apoptosis. 19
   J Immunol 163(12):6800-9.
- Sreejayan, Rao MN. Curcuminoids as potent inhibitors of lipid peroxidation. 1994. J Pharm Pharmacol. 46(12):1013-6.
- Wellington K, Jarvis B. Silymarin: a review of its clinical properties in the management of hepatic disorders. 2001. BioDrugs 15(7):465-89.
- Cho E, Zeisel SH, Jacques P, Selhub J, Dougherty L, Colditz GA, Willett WC. Dietary choline and betaine assessed by food-frequency questionnaire in relation to
  plasma total homocysteine concentration in the Framingham Offspring Study. 2006. AJCN 83(4):905-11.

\*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,