Ultraplex Gallbladder Support

Clinical Applications

- May Support Bile Synthesis and Lipid Metabolism*
- Helps Maintain Healthy Cholesterol Levels Already Within the Normal Range*
- Supports Cardiovascular Health*
- May Help Protect Liver Cells*

Ultraplex Gallbladder Support *is a specialized liver support formula that provides nutrients involved in fat metabolism, including choline, taurine, and methionine. Dandelion and celandine have been selected to support bile flow and healthy liver function. Guggul extract and inositol hexanicotinate are included to support healthy blood lipid levels already within the normal range.**

All Elevation Ultraplex Formulas Meet or Exceed cGMP Quality Standards

Discussion

Ultraplex Gallbladder Support is a specialized formula designed to target lipid metabolism and support healthy liver function.*

Inositol Hexanicotinate is a niacin derivative that consists of one molecule of inositol surrounded by six molecules of niacin. Over a period of time, the body slowly metabolizes niacin in this derived form so that the characteristic "niacin flush" is avoided. IHN is believed to work in the body in the same way as niacin: It decreases the mobilization of free fatty acids; inhibits cholesterol biosynthesis in the liver, specifically decreasing VLDL biosynthesis; and decreases the breakdown of HDL cholesterol.*[1-3]

Greater Celandine *(Chelidonium majus)* is important in both Western phytotherapy and Traditional Chinese Medicine, as it exhibits a broad range of biological activities.[4] Its inclusion in Ultraplex Gallbladder Support relates to in vitro and human studies that demonstrate its support of bile production and flow and its protective effect on liver cells.[4-6] Human studies, cited in a review by Gilca et al,[4] suggested that greater celandine helped relieve minor digestive and abdominal complaints related to the biliary system. To test the hepatotoxicity of greater celandine, researchers supplemented the diet of Wistar rats with doses that were approximately 50 to 100 times higher than those generally used in humans. The results indicated no alteration in hepatic function. Researchers caution against using greater celandine in situations (pharmacological treatments, etc.) that can compromise liver function.*[7]

Dandelion *(Taraxacum officinale)*, based on empirical findings, has been used medicinally as far back as the 10th and 11th centuries to support digestive health and kidney and liver function.[8] Recent animal and in vitro research points to the cell-protective effects and antioxidant activity of dandelion.[9] For instance, an in vitro study on increased lipid peroxidation in the cortex, hippocampus, and striatum of rats suggested that dandelion demonstrated protective antioxidant effects.[10] In another study, rats that were supplemented with dandelion extract showed increased antioxidant liver enzymes, reduced lipid peroxidation, and improved blood lipid metabolism.*[11]

Guggulsterones are the apparent bioactive compounds of guggul, an herbal extract from resin of the *Commiphora mukul* tree. Guggul is widely used in Ayurveda for its effect on blood lipids, and research suggests that guggulsterones may antagonize two nuclear hormone receptors involved in cholesterol metabolism. For example, it has been demonstrated that guggulsterone is a selective modulator of a particular bile acid receptor called a "farnesoid X receptor" (FXR). By acting as an antagonist to FXR, the guggulsterone can regulate the bile salt export pump. In other words, guggulsterone can modify the rate and amount of bile salts transported out of the liver.*[12-14]

Choline is involved in lipid transport and metabolism. Without adequate choline, lipids accumulate in the liver. Fat and cholesterol are packaged into lipoproteins in the liver and transported in the bloodstream via very low-density lipoproteins (VLDL). The body needs choline to synthesize phosphatidylcholine, a required component of VLDL particles. Although the body can synthesize small amounts of choline, exogenous sources are needed to maintain health.*[15]

Taurine, synthesized in the body from the amino acids methionine and cysteine, is considered a conditionally essential amino acid. It is required for efficient fat absorption and conjugation of bile acids, which solubilize cholesterol and increase its excretion. Studies suggest that taurine is important to various aspects of cardioprotection.[16,17] A primary role of taurine in cardiovascular health relates to its ability to scavenge hypochlorous acid (HOCl), which is produced by myeloperoxidase in neutrophils and macrophages. HOCl is a major contributor to the oxidation of LDL (low-density lipoproteins).*[17]

Methionine, a sulfur-containing essential amino acid, is one of the body's most important methyl donors. Maintaining healthy levels of methionine is important for the downstream production of glutathione, a tripeptide that assists with the protection of the liver.*[18]

***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.**

Ultraplex Gallbladder Support

Supplement Facts

Serving Size 2 Capsules
Servings Per Container 60

	Amount Per Serving	%Daily Value
Niacin as inositol hexanicotinate)	375 mg	2344%
Guggul Extract *Commiphora mukul*) oleo-gum-resin)	375 mg	**
Choline Dihydrogen Citrate	200 mg	**
L-Methionine	200 mg	**
Taurine	100 mg	**
Dandelion 4 1 Extract *Taraxacum officinale*) root)	75 mg	**
Greater Celandine 10 1 Extract *Chelidonium majus*) whole herb)	50 mg	**

** Daily Value not established.

Other Ingredients HPMC capsule), calcium silicate, silica, stearic acid, medium-chain triglyceride oil, and magnesium stearate.

Directions

Take two capsules twice daily after meals, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged.

References

1. Kruse W, Kruse W, Raetzer H, et al. Nocturnal inhibition of lipolysis in man by nicotinic acid and derivatives. *Eur J ClinPharmacol*. 1979 Aug;16(1):11-15. [PMID: 499296]
2. Yadav R, France M, Younis N, et al. Extended-release niacin with laropiprant: a review on efficacy, clinical effectiveness and safety. *Expert Opin Pharmacother*. 2012 Jun;13(9):1345-62. [PMID: 22607011]
3. MacKay D, Hathcock J, Guarneri E. Niacin: chemical forms, bioavailability, and health effects. *Nutr Rev*. 2012 Jun;70(6):357-66. doi: 10.1111/j.1753-4887.2012.00479.x. [PMID: 22646128]
4. Gilca M, Gaman L, Panait E, et al. Chelidonium majus—an integrative review: traditional knowledge versus modern findings. *Forsch Komplementmed*. 2010 Oct;17(5):241-48. [PMID:20980763]
5. Vahlensieck U, Hahn R, Winterhoff H, et al. The effect of Chelidonium majus herb extract on choleresis in the isolated perfused rat liver. *Planta Med*. 1995 Jun;61(3):267-71. [PMID: 7617771]
6. Niederau C, Göpfert E. The effect of chelidonium and turmeric root extract on upper abdominal pain due to functional disorders of the biliary system. Results from a placebo-controlled double-blind study [in German]. *Med Klin* (Munich). 1999 Aug 15;94(8):425-30. [PMID: 10495621]
7. Mazzanti G, Di Sotto A, Franchitto A, et al. Chelidonium majus is not hepatotoxic in Wistar rats, in a 4 weeks feeding experiment. *J Ethnopharmacol*. 2009 Dec 10;126(3):518-24. [PMID: 19761826]
8. Schütz K, Carle R, Schieber A. Taraxacum—a review on its phytochemical and pharmacological profile. *J Ethnopharmacol*. 2006 Oct 11;107(3):313-23. [PMID: 16950583]
9. Mahesh A, Jeyachandran R, Cindrella L, et al. Hepatocurative potential of sesquiterpene lactones of Taraxacum officinale on carbon tetrachloride induced liver toxicity in mice. *Acta Biol Hung*. 2010 Jun;61(2):175-90. [PMID: 20519172]
10. Colle D, Arantes LP, Rauber R, et al. Antioxidant properties of Taraxacum officinale fruit extract are involved in the protective effect against cellular death induced by sodium nitroprusside in brain of rats. *Pharm Biol*. 2012 Jul;50(7):883-91. [PMID: 22480378]
11. Cho SY, Park JY, Park EM, et al. Alternation of hepatic antioxidant enzyme activities and lipid profile in streptozotocin-induced diabetic rats by supplementation of dandelion water extract. *Clin Chim Acta*. 2002 Mar;317(1-2):109-17. [PMID: 11814465]
12. Yu BZ, Kaimal R, Bai S, et al. Effect of guggulsterone and cembranoids of Commiphora mukul on pancreatic phospholipase A(2): role in hypocholesterolemia. *J Nat Prod*. 2009 Jan;72(1):24-28. [PMID: 19102680]
13. Deng R. Therapeutic effects of guggul and its constituent guggulsterone: cardiovascular benefits. *Cardiovasc Drug Rev*. 2007 Winter;25(4):375-90. [PMID: 18078436]
14. Cui J, Huang L, Zhao A, et al. Guggulsterone is a farnesoid X receptor antagonist in coactivator association assays but acts to enhance transcription of bile salt export pump. *J Biol Chem.* 2003 Mar 21;278(12):10214-20. [PMID: 12525500]
15. Micronutrient Information Center: Choline. Linus Pauling Institute. Micronutrient Research for Optimum Health. http://lpi.oregonstate.edu/infocenter/othernuts/choline/. Accessed August 20, 2012.
16. Xu YJ, Arneja AS, Tappia PS, et al. The potential health benefits of taurine in cardiovascular disease. *Exp Clin Cardiol*. 2008 Summer;13(2):57-65. [PMID: 19343117]
17. Ito T, Azuma J. Taurine is a possible anti-atherosclerotic agent [in Japanese]. *Nihon Yakurigaku Zasshi*. 2004 May;123(5):311-17. [PMID: 15118255]
18. Methionine. Full Monograph. Natural Medicine's Comprehensive Database. http://naturaldatabase.therapeuticresearch.com/nd/Search.aspx?cs=&s=ND&pt=100&id=42&fs=ND&searchid=36616394. Accessed August 20, 2012.

Does Not Contain

Wheat, gluten, yeast, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

***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.**