

# Product Rationale: **LIVER SUPPORT**



*Consider the following review of clinical research results on several important active ingredients known for their ability to help support optimum liver function and healthy detoxification.\**

The liver is one of the most important organs in the body. Weighing only four pounds, this amazing organ performs countless functions that help the body maintain optimal health. One of its key functions is the synthesis of bile, which is needed for digestion of fats, absorption of fat-soluble vitamins, assimilation of calcium, conversion of beta-carotene into Vitamin A, and improvement of intestinal peristalsis. The liver also serves as one of the most significant detoxifying systems in the body. It combines toxic substances like metabolic waste, insecticide residue, drugs, alcohol, and other chemical substances with less toxic substances for their removal from the body. The liver is responsible for the regulation of both thyroid hormone levels and hormone activity. It also plays a vital role in the degradation of adrenaline, aldosterone, estrogen, and even insulin. Because the liver is responsible for all of these diverse and critical metabolic functions, it should be apparent why the maintenance of optimal liver health is so vitally important.

## PRODUCT OVERVIEW

Transformation's Professional Protocol™ Liver Support has been specifically formulated to aid the liver during its normal (but strenuous) daily load. This formulation will help remove the many imbedded toxic materials that may diminish the liver's optimal function. It will also support the liver in its normal sequence of regeneration. The liver is capable of repairing and regenerating damaged hepatic tissue at a quantity of almost 25%. Liver Support aids the liver in this auto-repair sequence.

## FORMULA RATIONALE

**N-acetyl Cysteine:** A reduced glutathione precursor and powerful antioxidant, N-acetyl Cysteine stimulates liver detoxification while providing specific hepatic protection.

**Milk Thistle (*Silybum marienum*):** This herb protects the liver by blocking the entrance of harmful toxins, by regenerating damaged liver cells, and by protecting it from oxidative stress.

**Choline (as Choline bitartrate):** This nutrient improves cell membrane integrity, facilitates fat transportation, and removes fat processing stress from the liver.

**Dandelion root (*Taraxacum officinale*):** By cleansing the blood, this powerful root lowers the demands made on the liver. Its actions also improve weakened digestion and increase bile production and flow.

**Selenium (as Selenium citrate):** A mineral that protects the liver by preventing the formation of free radicals, the citrate form of selenium is more readily absorbed and leaves an alkaline ash residue.

**Vitamin A palmitate:** This vitamin assists the liver with repairs and it stimulates immune function by maintaining optimal cell reproduction (differentiation).

**Tzyme™ Enzyme Blend:** A proprietary blend of proteolytic, polysaccharolytic, and lipolytic enzymes.

Protease aids in the lysis, targeting, and absorption of all plant based substances, these enzymes blend with free-floating proteins that limit their destructive tendencies. This process allows for the maximum absorption of all nutrients.

The blend of polysaccharolytic enzymes facilitates the digestion of all carbohydrates and ensures the absorption of minerals by preventing the chelating effects of phytates, pectinates, and oxalates.

Lastly, the lipolytic enzymes help to hydrolyze triglycerides, which increases the bio-availability of the lipid soluble vitamins A, D, E, K. It also prevents the formation of soaps by limiting the complexation of minerals with dietary fat.

**OTHER INGREDIENTS**

**Cellulose and Water**

This product is encapsulated in a vegetarian capsule. Liver Support is dairy, gluten, and soy free. No fillers are used in this product.

**COMPONENT BENEFITS**

Liver Support includes a synergistic formulation of herbs and nutrients known for their ability to protect the liver, promote hepatic cell regeneration, and support detoxification. This product is unique with its Tzyme™ Enzyme Blend that includes lipolytic, proteolytic, and polysaccharolytic enzymes for effective delivery of the various ingredients. This product is the perfect choice to help counter exposure to various forms of environmental toxicity. Liver Support is also very effective when used to provide nutritional support before, during, and after a heavy metal detox or other type of aggressive cleanse.

Each one-capsule serving of Liver Support is formulated to include the following.

**Vitamins & Minerals**

Vitamin A (as Vitamin A palmitate)	300 mcg
Choline (as choline bitartrate)	20 mg
Selenium (as selenium citrate)	25 mcg

**Herbs, etc**

N-acetyl cysteine	75 mg
Milk Thistle seed	50 mg
Dandelion root	20 mg

**Tzyme™ Enzyme Blend** 20 mg

- Proteases
- Pectinase
- Lipase
- Alpha-Galactosidase
- Phytase
- Glucoamylase
- Peptidase
- Cellulase
- Hemicellulase

**Other Ingredients:**

- Cellulose
- Water

**SUMMARY**

The countless toxins and poisons that can enter our body and bloodstream on a day-to-day basis can diminish and deplete the liver’s abilities to carry out its many vital metabolic functions. Over a period of time, the liver’s abilities to function can become depleted, thus creating a greater stress load on the other organ and glandular systems in the body. Transformation’s Professional Protocol™ Liver Support can offer support to the liver, helping it to remove toxic materials while providing it with the nutrients that are necessary for facilitating its processes of self-repair and regeneration. A healthy liver that is filled with strength and vitality is essential for maintaining an overall state of health and well-being.

**CLINICAL APPLICATIONS**

- Constipation
- Digestive disorders
- Headaches
- Nausea
- Skin disorders

**RECOMMENDED USAGE**

Take one (1) capsule daily with food or as directed by a health care practitioner. Take each dosage with at least 8 oz. of liquid. If there is difficulty swallowing capsules, remove contents from capsule, mix with a small amount of tepid water, and ingest immediately.

**CONTRAINDICATIONS**

- Diarrhea
- Headaches
- Nausea
- Rapid detoxification

In general, herbal formulas are not recommended during pregnancy and lactation or for children 12 years or younger. However, this particular formula has successfully been used to promote lactation in nursing mothers. Each case should be assessed on an individual basis and the practitioner, along with the patient, may use their professional judgment and decide to use the formula.

**SAFETY / QUALITY ASSURANCE**

All Transformation™ formulas are carefully prepared to

assure maximum quality and nutritional effectiveness.

## MICROBIOLOGICAL EVALUATION

This product was tested and found to be NSF/ANSI compliant and absent of any traces of *E.coli*, *salmonella*, and *S.aureus*.

## PRODUCT SPECIFICATIONS

Liver Support is available in bottles of 60 capsules.

Does not contain any dairy, egg, sugar, corn, yeast, wheat, soy, gluten, artificial colors, flavors, or preservatives.

Store in a cool, dry place. Keep out of reach of children.

## REFERENCES

- Bendich A. Vitamin C and Immune Responses. *Food Technol* 41, 112-114, 1987.
- Benedich A, Langseth L. Safety of Vitamin A. *Am J Clin Nutr* 1989;49:358-71.
- Block G. Vitamin C and cancer prevention: The epidemiologic evidence. *Am J Clin Nutr* 53, 270S-282S, 1991.
- Block G. Vitamin C, cancer, and aging. *Age Ageing* 16, 55-58, 1993.
- Canty DJ, Zeisel SH. Lecithin and choline in human health and disease. *Nutr Reviews* 52, 327-339, 1994.
- Cathcart RF. The third face of vitamin C. *J Orthomol Med* 7, 197-200, 1992.
- Cheraskin E, Vitamin C—Who Needs It? Arlington Press, Birmingham, AL, 1993.
- de Quay B, Malineurni R, Lauterburg BH. Glutathione Depletion: Role of Cystein Deficiency and Effect of Oral N-Acetylcysteine. *AIDS* 1992;6:815-19.
- Feher J, Lang F, et al. Free Radicals in Tissue Damage in Liver Diseases and Therapeutic Approach: Thoah J., *Exp Clin Med* 1986; 11:121-34.
- Foster S, *Herbs for Your Health* Loveland, CO: Interweave Press, 1996.
- Frei B, England L, Ames BN. Ascorbate is an outstanding Antioxidant in Human Blood Plasma. *Proc Natl Acad Sci* 86, 6377-6381, 1989.
- Ginter E. Optimum Intake of Vitamin C for the Human Organism. *Nutr Health* 1, 66-77, 1982.
- Girard P, Steinman R, Campos Torah GM, et al. Companion of Antibacterial and Antifungal Activities of Lapachal and Beta-Lapachone *Planta Med* 1994; 60:373-74.
- Guyton Textbook of Medical Physiology, 8th edition. Harcourt Brace, Philadelphia PA. 1991, Liver and blood purification, 695, 772.
- Guyton Textbook of Medical Physiology, 8th edition. Harcourt Brace, Philadelphia PA. 1991, Liver metabolism, 772-774.
- Guyton Textbook of Medical Physiology, 8th edition. Harcourt Brace, Philadelphia PA. 1991, Liver regeneration, 34.
- Jain A, et al. Effect of ascorbate or N-Acetylcysteine treatment in a patient with hereditary glutathione synthetase deficiency. *J Pediatr* 124, 229-233, 1994.
- Johnston CJ, Meyer CG, Srilakshmi JC. Vitamin C Elevates Red Blood cell glutathione in healthy adults. *Am J Clin Nutr* 58, 103-105, 1993.

Johnston CS, Luo B. Comparison of the absorption and excretion of three commercially available sources of vitamin C. *J Am Diet Assoc* 94, 779-781, 1994.

Levine M. New Concepts in The Biology and Biochemistry of Ascorbic acid. *New Engl J Med* 314, 892-902, 1986.

Murray M, Pizzorno J. *Encyclopedia of Natural Medicine*, Revised 2nd edition. Prima Health Publishing, Rocklin, CA., 1998, Liver detoxification 108-110, 457.

Murray M, Pizzorno J. *Encyclopedia of Natural Medicine*, Revised 2nd edition. Prima Health Publishing, Rocklin, CA., 1998, Liver support, 123-124.

Paul dark Duke JA. *CRC Handbook Of medicinal Herbs*, Boca Raton, FL: CRC Press, 1985; 470-71.

Vinson JA, Bose P. Comparative bioavailability to humans of ascorbic acid alone or in a citrus extract. *Am J Clini Nutr* 48, 601-604, 1988.

Wagner H, Horhammer L, Munster R. The Chemistry of Silybum, the Active Principle of the fruits of Silybum Marianum, *Arznein-Fosch Drug Res* 1968; 18:688-96.

Wicht LN. *Herbal Drugs and Phytopharmaceuticals* Boca Raton, FL: CRC Press, 1994: 486-87.

Xu MJ, Plezia PM, Alberto DS, et al. Reduction in Plasma or Skin Alpha Tocopherol Concentration in Long Term Administration of Beta-Carotene in Humans. *J Natl Cancer Inst* 1992;84:1559-65.

Zeisel SH, et al. Choline, an essential nutrient for humans. *FASEBJ* 5, 2093-2098, 1991.

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\*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.