

TriElements® Clinical Reference Guide

**MacroMicro™ Cleanse  
Plus VeinSolution™**

Awarded 4 patents\*\*By the U.S. Government

Scientific Advanced Complete  
Dietary Supplement 120 Vegetarian Capsules

**MacroMicro Cleanse**

Directions: Take 2 capsules daily for maintenance and 4 capsules daily periodically, when a more vigorous cleans/detox is needed. Best taken with food or a large glass of water in divided doses (am & pm). Store in a cool dry place

Serving Size: 2 Vegetarian Capsules (vegetable cellulose)  
Servings Per Container 30

	Amount Per Serving	%DV
Milk Thistle Extract (seed) (80% silymarin)	150 mg	*
N-Acetyl Cysteine	125 mg	*
Broccoli extract (aerial) (4000 ppm Sulforaphane)	40 mg	*
Alpha Lipoic Acid	60 mg	*
Proprietary Blend: CranXact® Extract** (cranberry, grape, apple) (Standardized to clinical levels of bacteria anti-adhesion activity) blended with special detox/cleansing support ingredients.	545 mg	*
Dandelion (root)		*
Cranberry Extract (seeds and/or fruit)		*
Burdock (root)		*
Grape Extract (seeds)		*
Pomegranate Extract (fruit) (40% Ellagic Acid)		*
Artichoke Extract (leaf) (2% Cynarin)		*
Red Clover (aerial)		*
Mullein (leaf)		*
Ginger (root)		*
Larch Arabinogalactan		*
Apple Extract (skin, seeds, fruit)		*

\*Daily Value not established

Other Ingredients: vegetable cellulose, silica

\*\*CranXact U.S. patent #'s 5,474,774, 5,525,341, 5,646,178, 5,650,432. Bacteria anti-adhesion activity levels based on red blood cell hamagglutination assay.

**VeinSolution**

Serving Size 2 vegetarian capsules  
Servings Per Container 30

	Amount Per Serving	% DV
Butchers Broom Extract (root)	75 mg	*

(standardized to 10% ruscogenins)

Grape Extract (seed)		
(standardized to 95% proanthocyanidins)	75 mg	*
Bilberry (leaf)	225 mg	*
Citrus Bioflavonoids	150 mg	*
Centella Asiatica (leaf)	150 mg	*
Rose Hips	150 mg	*
Horse Chestnut Extract (seed) (4:1)	50 mg	*
Capsicum frutescens (fruit) (minimum 40,000 heat units)	50 mg	*

\*Daily Value (DV) not established

### **Purpose of MacroMicro Cleanse Formula:**

**Comprehensive & Advanced:** This combination product is uniquely patented and formulated to provide comprehensive support for detoxification and cleansing at the macrobiological and microbiological levels and provide a more balanced approach to the body's phase 1 and phase 2 detoxification systems. It can be used to support daily detox or a short term detox/cleanse program

**Macrobiological:** It is specially designed to help all of the systems and organs of the body in their detoxification and cleansing functions. It also helps strengthen these systems and organs so they are more capable of performing the detoxification/cleansing functions on their own.

**Microbiological:** It inhibits the adherence of bacteria to living tissue so they can be safely and naturally voided from the body. It works at the cellular level to enhance energy production in the mitochondria and inhibit associated oxidation. It protects cells from alteration and damage.

### **Application and Key Benefits:**

- Designed to provide a balanced approach to Phase I and Phase II detoxification support. (1,2,3,4)
- Supports the detoxification functions of the liver and also promotes the natural production and recycling of glutathione, a very important endogenous detoxifier and antioxidant. It also protects the liver by inhibiting passage of toxins into liver cells and stimulating regeneration of new liver cells. (5,6,7,8,10,11,12)
- Supports normal bile flow and fat metabolism which helps nutrient absorption and elimination of waste. (9)
- Helps to improve the efficiency of energy production in the mitochondria and prevent associated oxidative cellular damage.(19,20,21,22,23,27,)
- Inhibits Glycation and 'Glycation End Products' (AGE's). (28,29, 30, 31, 32)
- Protects cells from alteration and damage. (10,11,12)
- Supports healthy respiration by helping to thin stubborn mucous (13)

- Helps the body detoxify and protect against chemicals and heavy metal toxins such as mercury and arsenic. (14,15)
- Anti-oxidant support for both fat and water soluble systems (16)
- Provides high levels of bacteria anti-adhesion support (17,18)
- Helps regenerate and recycle Vitamins C, E, Glutathione, and Coenzyme Q10 (20,21,22,23)
- Helps support and protect normal structure and function of blood, colon and kidneys. (24,25,26)

1. Valenzuela A, et al. Selectivity of Silymarin on the Increase of the Glutathione Content in Different Tissues of the Rat. *Planta Medica*. 1989;55:1550-52.
2. Beloqui O, et al. N-acetyl cysteine enhances the response to interferon-alpha in chronic hepatitis C: a pilot study. *J Interferon Res*. Aug1993;13(4):279-82.
3. Fahey JW, Talalay P. Antioxidant functions of sulforaphane: a potent inducer of Phase II detoxication enzymes. *Food Chem Toxicol* 1999;37:973-9.
4. Maheo K, Morel F, Langouet S, et al. Inhibition of cytochromes P-450 and induction of glutathione S- transferases by sulforaphane in primary human and rat hepatocytes. *Cancer Res* 1997;57:3649-52.
5. Flora K, et al. Milk Thistle (*Silybum marianum*) for the Therapy of Liver Disease. *Am J Gastroenterol*. 1998;93(2):139-43.
6. Salmi H, et al. Effect of Silymarin on Chemical, Functional, and Morphological Alterations of the Liver. A Double-blind Controlled Study. *Scand J Gastroent*. 1982;17:517-21.
7. Sonnenbichler J, Zetl I. Stimulating influence of a flavonolignan derivative on proliferation, RNA synthesis and protein synthesis in liver cells. In *Assessment and Management of Hepatobiliary Disease*, ed. L Okolicsanyi, G Csomos, G Crepaldi. Berlin: Springer-Verlag, 1987, 265-72.
8. Beloqui O, et al. N-acetyl cysteine enhances the response to interferon-alpha in chronic hepatitis C: a pilot study. *J Interferon Res*. Aug1993;13(4):279-82.
9. *Cardui mariae fructus* (Milk Thistle fruit). Commission E Monograph. Mar1986;Bundesanzeiger:no. 50.
10. Campos R, et al. Silybin Dihemisuccinate Protects Against Glutathione Depletion and Lipid Peroxidation Induced by Acetaminophen on Rat Liver. *Planta Medica*. 1989;55:417-19.
11. Rue YC. Advances in Pharmacological Studies of Silymarin. *Mem Inst Oswaldo Cruz*. 1991;86(Suppl 2):79-85.
12. Dehmlow C, Erhard J, de Groot H. Inhibition of Kupffer Cell Functions as an Explanation for the Hepatoprotective Properties of Silibinin. *Hepatology*. Apr1996;23(4):749-54.
13. Olsson B, et al. Pharmacokinetics and bioavailability of reduced and oxidized N-acetylcysteine. *Eur J Clin Pharmacol* 1988;34:77-82.
14. Flora SJ, et al. Arsenic-induced oxidative stress and its reversibility following combined administration of N-acetylcysteine and meso-2,3-dimercaptosuccinic acid in rats. *Clin Exp Pharmacol Physiol*. Nov1999;26(11):865-9.
15. Ballatori N, et al. N-acetylcysteine as an antidote in methylmercury poisoning. *Environ Health Perspect*. May1998;106(5):267-71.
16. Kagan VE, Shvedova A, Serbinova E, et al. Dihydrolipoic acid--a universal antioxidant both in the membrane and in the aqueous phase. Reduction of peroxy, ascorbyl and chromanoxyl radicals. *Biochem Pharmacol*. Oct1992;44(8):1637-49.
17. Avorn J, Monane M, Gurwitz JH, et al. Reduction of bacteriuria and pyuria after ingestion of cranberry juice. *JAMA* 1994;271:751-4.
18. Zafriri D, Ofek I, Adar R, et al. Inhibitory activity of cranberry juice on adherence of type 1 and type P fimbriated *Escherichia coli* to eucaryotic cells. *Antimicrob Agents Chemother* 1989;33:92-8.
19. Hagen TM, Ingersoll RT, Lykkesfeldt J, Liu J, Wehr CM, Vinarsky V, Bartholomew JC, Ames AB. (R)-alpha-lipoic acid-supplemented old rats have improved mitochondrial function, decreased oxidative damage, and increased metabolic rate. *FASEB J*. 1999 Feb;13(2):411-8.
20. Busse E, Zimmer G, Schopohl B, et al. Influence of alpha-lipoic acid on intracellular glutathione in vitro and in vivo. *Arzneimittel-Forschung*. 1992;42:829-831.
21. Packer L, Witt EH, Tritschler HJ. alpha-Lipoic acid as a biological antioxidant. *Free Radic Biol Med*. Aug1995;19(2):227-50.
22. Stoyanovsky DA, Goldman R, Darrow RM, et al. Endogenous ascorbate regenerates vitamin E in the retina directly and in combination with exogenous dihydrolipoic acid. *Curr Eye Res*. Mar1995;14(3):181-9.

23. Kagan V, Serbinova E, Packer L. Antioxidant effects of ubiquinones in microsomes and mitochondria are mediated by tocopherol recycling. *Biochem Biophys Res Comm.* 1990;169:851-857
24. Gavish D, et al. Lipoprotein (a) Reduction by N-Acetylcysteine. *Lancet.* Jan1991;337:203-204.
25. Shyu KG, Cheng JJ, Kuan P. Acetylcysteine protects against acute renal damage in patients with abnormal renal function undergoing a coronary procedure. *J Am Coll Cardiol* 2002;40:1383–8.
26. Estensen RD, Levy M, Klopp SJ, et al. N-acetylcysteine suppression of the proliferative index in the colon of patients with previous adenomatous colonic polyps. *Cancer Lett* 1999;147:109–14.
27. Hagen TM, Ingersoll RT, Lykkesfeldt J, Liu J, Wehr CM, Vinarsky V, Bartholomew JC, Ames AB. (R)-alpha-lipoic acid-supplemented old rats have improved mitochondrial function, decreased oxidative damage, and increased metabolic rate. *FASEB J.* 1999 Feb;13
- 28 Jacob S, et al. Enhancement of Glucose Disposal in Patients with Type 2 Diabetes by Alpha-lipoic Acid. *Arzneimittelforschung.* Aug1995;45(8):872-74.
- 29 Evans JL, Goldfine ID. Alpha-lipoic acid: a multifunctional antioxidant that improves insulin sensitivity in patients with type 2 diabetes. *Diabetes Technol Ther.* Sep2000;2(3):401-13.
- 30 Estrada DE, Ewart HS, Tsakiridis T, et al. Stimulation of glucose uptake by the natural coenzyme alpha-lipoic acid/thioctic acid: participation of elements of the insulin signaling pathway. *Diabetes.* 1996;45:1798-1804.
31. Ziegler D, Schatz H, Conrad F, Gries FA. Effects of treatment with the antioxidant alpha-lipoic acid on cardiac autonomic neuropathy in NIDDM patients: a 4-month randomized controlled multicenter trial (DEKAN study). *Diabetes Care* 1997;20:369-73.
32. Kunt T, et. Al.: Alpha-lipoic acid reduces expression of vascular cell adhesion molecule-1 and endothelial adhesion of human monocytes after stimulation with advanced glycation end products. *Clin Sci (Lond).* 1999 Jan; 96(1):75-82

## **Purpose of Combining MacroMicro Cleanse with VeinSolution**

Poor circulation develops or is made worse when the body is starved for nutrients and laden with toxic, stagnant waste. This is damaging to tissue and blood vessels and inhibits circulation, especially microcirculation. Detoxification and waste clearance is also compromised when the structure and function of the circulatory system is not optimum. Combining a detoxification and waste removal formula with a specific formula that supports circulation helps both formulas to work much better and provides a more effective and lasting improvement to health and appearance.

### **Purpose of VeinSolution:**

A healthy circulatory system is essential in the everyday process of transporting nutrients and oxygen to cells and removing waste from tissue. VeinSolution is a powerful aid in this process.

- **Veins** – promotes healthy structure and function of all veins and spider veins.
- **Circulation** – supports healthy circulation & microcirculation. Helps clear stagnations and assist the bloods delivery of necessary oxygen and nutrients throughout the body.
- **Fluids** – helps maintain fluid balance in the extremities and smallest blood vessels so you can feel light on your feet again.
- **Soft Tissue** – supports the structure and function of connective tissue and helps clear congestion of lymph and other nutrients.

### **Grape Seed Extract (95% proanthocyanidins)**

**Botanical Name:** *Vitis vinifera*

**Daily Dosage Range:** 25 – 250 mg

**Primary Areas of Investigation:** Connective tissue, blood vessels (especially small blood vessels), and antioxidant activity.

**Supportive Applications:** Proanthocyanidins have antioxidant activity that play a role in the repair and stabilization of collagen, elastin and hyaluronic acid, all of which are critical to the healthy connective tissue of joints, muscles, and blood vessels (especially capillary permeability and fragility). Regeneration (recycling) of vitamins C and E. Post-operative fluid/electrolyte balance. Microcirculation. Platelet aggregation and blood flow. Lipid peroxidation..

### Studies

1. Baruch J. Effect of Endotelon in Postoperative Edema. Results of a Double-blind Study Versus Placebo in 32 Female Patients. *Ann Chir Plast Esthet.* 1984;29(4):393-5.
2. Zafirov D, Bredy-Dobrova G, Litchev V, et al. Antiexudative and Capillaritonic Effects of Procyanidines Isolated from Grape Seeds (*V. Vinifera*). *Acta Physiol Pharmacol Bulg.* 1990;16(3):50-4.
3. Maffei Facino R, et al. Free Radicals Scavenging Action and Anti-enzyme Activities of Procyanidines from *Vitis vinifera*. A Mechanism for Their Capillary Protective Action. *Arzneim-Forsch/Drug Res.* 1994;44(5):592-601.
4. Barracchini A, Franceschini N, Filippello M, et al. Leukocyanidines and Collagenases: In Vitro Enzyme Inhibition Activity. *Clin Ter.* Jul1999;150(4):275-8.
5. Maffei Facino R, et al. Regeneration of Endogenous Antioxidants, Ascorbic Acid, Alpha Tocopherol, by the Oligomeric Procyanide Fraction of *Vitis vinifera* L:ESR Study. *Boll Chim Farm.* 1997;136(4):340-44.
6. Frankel EN, et al. Inhibition of Oxidation of Human Low-density Lipoprotein by Phenolic Substances in Red Wine. *Lancet.* 1993;341(8843):454-57.
7. Blazso G, Gabor M. Oedema-inhibiting Effect of Procyanidin. *Acta Physiol Acad Sci Hung.* 1980;56(2):235-40.
8. Zafirov D, et al. Antiexudative and Capillaritonic Effects of Procyanidines Isolated from Grape Seeds (*V. vinifera*). *Acta Physiol Pharmacol Bulg.* 1990;16(3):50-54.
9. Natella F, Belelli F, Gentili V, Ursini F, Scaccini C. Grape seed proanthocyanidins prevent plasma postprandial oxidative stress in humans. *J Agric Food Chem.* Dec2002;50(26):7720-5.
10. Thebaut JF, Thebaut P, Vin F. Study of Endotelon in Functional Manifestations of Peripheral Venous Insufficiency. *Gaz Med France.* 1985;92:96-100.
11. Robert L, et al. The Effect of Procyanidolic Oligomers on Vascular Permeability. A Study Using Quantitative Morphology. *Pathol Biol. (Paris).* 1990;38(6):608-16.
12. Uchida S, et al. Active Oxygen Free Radicals Are Scavenged by Condensed Tannins. *Prog Clin Biol Res.* 1988;280:135-38.
13. Robert AM, et al. The Effect of Procyanidolic Oligomers on Mesenchymal Cells in Culture. II – Attachment of Elastic Fibers to the Cells. *Pathol Biol. (Paris).* 1990;38(6):601-07
14. Vigna GB, et al. Effect of a standardized grape seed extract on low-density lipoprotein susceptibility to oxidation in heavy smokers. *Metabolism.* 2003 Oct;52(10):1250-7.
15. Jonadet M, et al. Anthocyanosides Extracted from *Vitis vinifera*, *Vaccinium myrtillus* and *Pinus maritimus*. I. Elastase-inhibiting Activities in Vitro. II Compared Angioprotective Activities in Vivo. *J Pharm Belg.* 1983;38(1):41-46.

### **Butchers Broom Extract standardized to 10% ruscogenins**

**Botanical Name:** *Ruscus aculeatus*

**Daily Dosage Range:** 30 – 300 mg daily

## **Primary Areas of Investigation: Blood Vessels**

**Supportive Applications:** Chronic venous insufficiency (painful condition involving fatigue and swelling in the legs). German Commission E has approved Butcher's broom extract as supportive for this condition and also for hemorrhoids.

### **Studies**

- 1- Blumenthal M, Busse WR, Goldberg A, et al. (eds). *The Complete Commission E Monographs: Therapeutic Guide to Herbal Medicines*. Boston, MA: Integrative Medicine Communications, 1998, 99–100.
- 2- Vanscheidt W, Jost V, Wolna P, et al. Efficacy and safety of a Butcher's broom preparation ( *Ruscus aculeatus* L. extract) compared to placebo in patients suffering from chronic venous insufficiency. *Arzneimittelforschung*. 2002;52(4):243-250.
- 3- Capelli R, Nicora M, Di Perri T. Use of extract of *Ruscus aculeatus* in venous disease in the lower limbs. *Drugs Exp Clin Res* 1988;14:277–83.
- 4- Lucker P, Jost V, Wolna P, et al. Efficacy and safety of ruscus extract compared to placebo in patients suffering from chronic venous insufficiency [abstract]. *Phytomedicine*. 2000;7(suppl 2):P-155.
- 5- Rudofsky G, Diehm C, Gruss JD, et al. Chronic venous insufficiency. Treatment with *Ruscus* extract and trimethylhesperidin chalcone [in German; English abstract]. *MMW Munch Med Wochenschr*. 1990;132:205–210.
- 6- Weindorf N, Schultz-Ehrenburg U. Controlled study of increasing venous tone in primary varicose veins by oral administration of *Ruscus aculeatus* and trimethylhesperidin chalcone [in German; English abstract]. *Z Hautkr*. 1987;62:28–30,35–38.
- 7- Cluzan RV, Alliot F, Ghabboun S, et al. Treatment of secondary lymphedema of the upper limb with CYCLO 3 FORT. *Lymphology*. 1996;29:29-35.

### **Other Supportive Nutrients**

These other nutrients are rich in special phenolic compounds that help maintain the structure and function of blood vessel walls. This is particularly important in helping to prevent leakage from capillaries, and associated side effects. They help synthesize and repair collagen, for improved connective tissue structure and circulation. This is accomplished directly and through the enhancement of Vitamin C absorption. Connective tissue is an important component of blood vessels and blood itself. In general, these other nutrients promote healthy, normal connective tissue structure and healthy fluid balance in the smallest blood vessels and boost metabolism and circulation in the extremities.

1. Morazonni P, et al. *Vaccinium myrtillus*. *Fitoterapia*. 1996; vol. LXVII, no. 1:3-29.
2. Cohen-Boulakia F, Valensi PE, Boulahdour H, et al. In Vivo Sequential Study of Skeletal Muscle Capillary Permeability in Diabetic Rats: Effect of Anthocyanosides. *Metabolism*. Jul2000;49(7):880-5.
3. Colantuoni A, Bertuglia S, Magistretti MJ, et al. Effects of *Vaccinium myrtillus* Anthocyanosides on Arterial Vasomotion. *Arzneimittelforschung*. Sep1991;41(9):905-9.
4. Vinson JA, Bose P. Comparative bioavailability to humans of ascorbic acid alone or in a citrus extract. *Am J Clin Nutr* 1988;48:601–4.
5. Vinson JA, Bose P. Comparative bioavailability of synthetic and natural vitamin C in guinea pigs. *Nutr Rep Int* 1983;27:875–9.
6. Simini B. Horse-chestnut Seed Extract for Chronic Venous Insufficiency. *Lancet*. Apr1996;347(9009):1182-83.
7. Vayssairat M, et al. Horse-chestnut Seed Extract for Chronic Venous Insufficiency. *Lancet*. Apr1996;347(9009):1182.