

Product Name: DTX-Factors +

NPN: EN 142529

Galenic Form: Clear, hard vegetable cellulose capsule

Format: 90 Vegetable Capsules

Ingredients:

Each capsule contains:

Vitamin A (retinyl palmitate).....	125 mcg RAE (416 IU)
Beta-carotene.....	1875 mcg RAE/375 mcg (1250 IU)
Vitamin C (sodium ascorbate).....	83.3 mg
Vitamin E (d-alpha-tocopheryl succinate).....	27.9 mg AT (41.6 IU)
Thiamine (thiamine hydrochloride).....	2.5 mg
Riboflavin (riboflavin-5-phosphate).....	4.1 mg
Niacin (inositol hexanicotinate).....	15 mg
Vitamin B6 (pyridoxine-5-phosphate).....	5 mg
Folate (folic acid).....	100 mcg
Vitamin B12 (cyanocobalamin).....	16.6 mcg
Biotin.....	33.3 mcg
Pantothenic acid (calcium-d-pantothenate).....	16.6 mg
Magnesium (magnesium citrate).....	32.1 mg
Zinc (zinc HVP* chelate).....	5 mg
Selenium (selenomethionine).....	33.3 mcg
Copper (copper gluconate).....	330 mcg
Manganese (manganese citrate).....	1.6 mg
Molybdenum (sodium molybdate).....	16 mcg
Choline (choline bitartrate).....	33.3 mg
Inositol.....	16.6 mg
L-Methionine.....	60 mg
Coenzyme Q10 (ubidecarenone).....	4.1 mg
L-Glutamic acid.....	50 mg
Glycine (aminoacetic acid).....	33.3 mg
L-Histidine (L-histidine hydrochloride).....	8.3 mg
L-Serine.....	8.3 mg
Taurine.....	33.3 mg
N-acetyl-L-Cysteine.....	0.5 mg
L-Glutathione (reduced).....	50 mg
DIM (diindolylmethane).....	0.5 mg
Quercetin.....	33.3 mg
Broccoli florets (<i>Brassica oleracea L.</i>) 20:1 extract, equivalent to 332 mg.....	16.6 mg
Catalase (<i>Aspergillus niger</i>).....	8.3 mcg / 300 Baker Units
Grape seed (<i>Vitis vinifera</i>) extract std. to 95% polyphenols.....	1.6 mg
Milk thistle seed extract (<i>Silybum marianum L.</i>) std. to 80% silymarin.....	8.3 mg
Kudzu root extract (<i>Pueraria montana</i>).....	0.5 mg
Calcium d-glucarate.....	41.6 mg

*Hydrolyzed Vegetable Protein

Non-medicinal ingredients:

Hypromellose, silicon dioxide.

This product does not contain corn, dairy, egg, gluten, shellfish, sulfites, animal derivatives or artificial preservatives, flavours, or colours.

Formula Rationale: *RxBalance™ DTX-Factors +* is a multi-ingredient nutritional complex that helps support the body's detoxification systems, reduce oxidative stress, and maintain overall good health.

DTX-Factors + consists of antioxidants, herbs, conjugating agents, and important vitamin and mineral cofactors that support the detoxification pathways in the body.

Antioxidants include glutathione (GSH), a powerful antioxidant that can neutralize free radicals directly or act as a cofactor along with the selenium-containing enzyme glutathione peroxidase to neutralize hydrogen peroxide. Coenzyme Q10 has direct antioxidant activity, especially in cell membranes. CoQ10 is the key component in oxidative phosphorylation in mitochondria, where energy in the form of adenosine triphosphate (ATP) is generated. Vitamin C is a direct antioxidant and a cofactor in the mixed-function oxygenase (MFO) system operating in the microsomes and reticuloendothelial tissues in the liver. Vitamin C is required to stabilize the integrity of the cytochrome P-450 electron transport system. Vitamin E is a powerful free radical neutralizer that prevents lipid peroxidation in cell membranes. Vitamin E, along with selenium, is a cofactor in glutathione peroxidase activity. Selenium is an essential component of the antioxidant enzyme glutathione peroxidase that catalyzes the reduction of GSH. A deficiency of selenium is associated with an increased risk of numerous cancers.

The herbal support in this formula includes diindolylmethane (DIM), a dietary indole found in cruciferous vegetables. This phytochemical is able to modify the metabolism of estrogen. Supplemental use of DIM in humans has been shown to be effective in adjusting the pathways of estrogen metabolism to favour the production of 2-hydroxy estrogen metabolites. Unlike soy isoflavones, genistein, and daidzen, DIM is not an estrogen mimic or phytoestrogen and has no inherent estrogenic activity. DIM acts to balance the natural response to estrogen by adjusting the activity of metabolic cytochrome enzymes and specialized estrogen receptor molecules. Kudzu root, a herb high in the isoflavone puerarin, has been used for centuries in Traditional Chinese Medicine for alcoholism, allergies, migraines, and diarrhea. Phytoestrogen studies using extracts of kudzu root showed that it had significant competitive binding to estrogen receptor beta (ERbeta). Kudzu enhances 2-hydroxyestron metabolism versus the 4-hydroxy 16 alpha pathway. Quercetin is a bioflavonoid with direct antioxidant and detoxification activity. It can inhibit lipid peroxidation, chelate iron and copper, and protect cells and tissues against the effects of reactive oxygen species. Milk thistle has, as its main component, silymarin. This phytochemical is one of the most potent hepatoprotective agents known. Milk thistle has been found to protect liver cells from iron toxicity and radiation damage.

The conjugating agents in DTX-Factors + include glutathione, which, in addition to having antioxidant activity, is the cofactor for reactions catalyzed by glutathione S-transferase enzymes that protect cells from electrophilic xenobiotic compounds. Glutathione also acts as a cofactor in the conjugation of reactive metabolites formed during cytochrome P-450 biotransformation. Folic acid and vitamin B12 are important nutritional cofactors for methylation reactions. The addition of methyl groups reduces the toxicity of exogenous and endogenous compounds. Folic acid is required for homocysteine elimination. Glycine, glutamine, and taurine are the primary amino acids used in the amino acid conjugation system. This reaction allows urinary excretion of Phase I compounds by increasing their ability to interact with the organic anion transport system in the kidney tubules.

The important vitamin and mineral cofactors in DTX-Factors + include calcium-d-glucarate, which has been shown to inhibit beta-glucuronidase, an enzyme produced by colonic microflora and involved in Phase II liver detoxification of certain xenobiotics, lipid-soluble toxins, and steroid hormones. Vitamin A is an important nutrient for efficient cytochrome P-450 enzyme activity. Copper, manganese, and molybdenum are trace minerals that are essential to various

reactions, for example, superoxide dismutase (copper), phosphorylation (manganese), and aldehyde oxidase (molybdenum). Zinc is necessary in the function of the enzyme alcohol dehydrogenase, which converts alcohols to aldehydes in Phase I detoxification.

Primary indication(s):

Helps support the body's detoxification systems. Helps reduce oxidative stress. Helps maintain good health.

Recommended dosage:

Adults take 2 capsules twice daily with meals, or as directed by a health care practitioner. Take a few hours before or a few hours after taking other medications.

Complements:

HM Dtox, Kyolic

Caution:

Do not use if pregnant or breastfeeding. Consult a health care practitioner before use if you have impaired liver function. Keep out of reach of children.

Dr. Crisafi's comments:

Several years ago, scientists coined a new term for foreign chemicals found in the body: xenobiotics. The term comes from the Greek xenos, meaning foreign, and bios, meaning life. Xenobiotics are found when the body absorbs chemicals that are not nutrients, or when normally occurring substances become denatured, i.e., modified from their original molecular structure, or are in excess. Some authors have suggested that we are burdened by as many as 100,000 man-made xenobiotics - and that doesn't take into account the natural ones.

A considerable number of clinical studies demonstrate that xenobiotic chemicals, which were once thought to have a very precise and direct toxic effect, may actually affect different parts of the body in a variety of ways.

One study has suggested a deficiency in detoxification pathways is involved in symptoms of Parkinson's disease. Other studies have associated the development of respiratory tract and food allergies with insufficient detoxification. Of course, these health problems are multi-factorial, yet, xenobiotics do play an important role in their etiology.

Many chemicals can be absorbed into the bloodstream and cause a variety of symptoms. Unfortunately, toxicologists usually verify the dose-symptom relationship of one chemical at a time. To my knowledge, no comprehensive studies have been done on the metabolic effects of an accumulation of minute amounts of hundreds of chemicals. Unfortunately, in North America, the xenobiotic load is considerable: food additives - colourings, flavours, preservatives, etc. fungicides, pesticides, herbicides, antibiotic or hormone residues, various other drugs, environmental pollutants, and more.

Is it any wonder we are sicker and sicker!

The concept of detoxification has always been a part of the natural health recovery approach.

Hippocrates, the father of medicine is known to have said, "First of all, do not harm." The second part of the Hippocratic dictum is rarely quoted. It states, "Secondly, cleanse." To detoxify, or help the body rid itself of xenobiotics, is of primary importance in reducing the toxic load on our bodies.

At our clinic we have found that the great majority of patients benefit from a preliminary detoxification program. This can be done with products such as Liv-Tox or HM Dtox. However, an increasing number of individuals realize that specific targeted nutritional support is important to ensure a safe and effective detoxification. In other words, if you are to ask the body to detoxify effectively, you should support it nutritionally during the process. This is one area where DTX-Factors+ is indicated. Indeed, the nutrients present in DTX-Factors+ enhance the two transformation processes that ensure proper detoxification by providing the nutrients essential to Phase I and Phase II of the reactions.

Some individuals, in increasing numbers, require long term (sometimes permanent) detoxification support because of the environment in which they work and/or live. Individuals working in areas with a high xenobiotic density such as hair salons, service stations, printing shops, etc... as well as those who live and exercise in highly polluted city centers may require additional, constant, nutritional support to ensure proper detoxification. In these cases, DTX-Factors+ the perfect solution for long term support of the body's detoxification pathways.

I've found that the consistent and targeted nutritional support offered by DTX-Factors+ is an effective means of helping our patients overcome the xenobiotic burden we all face in our industrialized world.

Selected References

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