WELLNESS
SMITH FACIAL PLASTICS

CORE DETOX

CLINICAL APPLICATIONS

- *Enhances Phase II and III Detoxification Mechanisms*
- *Provides Key Alkalanizing Factors to Support Toxin Excretion*
- *Supports Healthy Estrogen Detoxification*
- *Promotes Gastrointestinal Health*

GASTROINTESTINAL HEALTH

CORE DETOX is scientifically formulated to provide advanced support for increased Phase II liver detoxification and Phase III toxin elimination. It features clean macronutrients, key phytonutrients, fiber and alkalinizing factors to enhance the detoxification and elimination of xenobiotics and xenoestrogens from the body. CORE DETOX provides 15 g of hypoallergenic brown rice protein and 8 g of fiber with 0 g of added sugar to effectively promote metabolic detoxification.

Overview of Detoxification

The CDC estimates that more than 100,000 chemicals are used by Americans and about 1,000 new chemicals are introduced annually.[1] Evidence suggests even low-level toxicity is related to a variety of health concerns. In addition, the standard American diet, which is high in sugar and caffeine while low in nutrient density and fiber, has been shown to slow detoxification mechanisms and reduce the elimination of toxins. Therefore, it is important to have an aggressive, daily detoxification strategy that supports the various phases of detoxification.

The liver is the body's main organ of detoxification. The detoxification process, also known as biotransformation, is a three-phase process where environmental pollutants, hormone disruptors, unhealthy estrogen metabolites, xenoestrogens (synthetic compounds that imitate estrogen), and other harmful toxins are safely processed and removed from the body.[2,3] These detoxification systems are very complex and require a variety of nutrients and antioxidant protection for optimal function. In Phase I, a specialized family of enzymes known as the cytochrome P450 enzymes use oxygen to form a reactive site on toxic compounds. This process creates highly reactive compounds that are more harmful and reactive than the initial toxins. These strong free radicals can cause structural damage to lipids, proteins and DNA within the cell. This is why Phase II detoxification is a crucial step that must be ready to bind, package and neutralize these harmful intermediate metabolites so they can be safely excreted from the body. During the final step of detoxification, Phase III, neutralized, water-soluble compounds can then be excreted in the urine, bile or stool.[3,4]

The ingredients included in CORE DETOX were specifically chosen for their ability to support Phase II detoxification and Phase III elimination. N-acetyl cysteine, along with glycine and taurine, are well-known amino acids that enhance liver detoxification. The antioxidants included in CORE DETOX, such as lipoic acid, green tea, ellagic acid and a unique vegetable antioxidant blend, upregulate key Phase II enzymes and protect the liver from oxidative damage. In addition, watercress, pomegranate and potassium citrate provide essential support for the kidneys, facilitating the efficient elimination of toxins through urinary excretion.

N-Acetyl Cysteine†

N-acetyl cysteine (NAC) is a sulfhydryl-containing amino acid that is commonly used to support liver health. Though studies have shown the absorption of oral glutathione to be limited, supplementation with NAC has been shown to significantly increase circulating levels of glutathione, a primary antioxidant that protects cellular health.[5-7] Increasing glutathione levels increases the production of specialized antioxidant enzymes, including glutathione peroxidase, glutathione reductase and

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detoxification enzymes, such as glutathione S-transferase. Through the activity of these enzymes, NAC protects the body from oxidative damage, increases Phase II biotransformation and enhances the normal breakdown of toxins and other metabolic by-products of the body.

Glycine†

One of the six Phase II biotransformation pathways is amino acid conjugation (the attachment of amino acids to a toxin). Glycine is one of the amino acids used in this process, and it is also necessary for glutathione synthesis.[8] Glycine preserves intracellular glutathione (GSH) concentration and protects cells from oxidative damage. This process is mediated by a protein called glycine transporter 1, or GLYT1.[9] Research has shown that glycine treatment of human intestinal cells against an oxidative agent reduced the intracellular concentration of reactive oxygen species (ROS) when exposed to oxidative challenge.[9]

Taurine†

The sulfation pathway is another important Phase II detoxification pathway. In the sulfation pathway, a sulfur-containing molecule attaches to the toxin to produce a compound that can be excreted from the body. Studies show taurine effectively conjugates bile acids[10] and increases glutathione production.[11]

Potassium Citrate†

Potassium is an essential mineral found in many fiber-rich whole foods and is important for various functions in the body, like electrolyte and acid-base balance. Potassium citrate is a citrate salt known to help regulate urinary pH levels, promote alkalinization in the blood and make the water-soluble toxins processed from biotransformation more easily excretable via the urine by the kidney.[12]

Pomegranate Fruit Extract†

The pomegranate fruit is well known for its high antioxidant levels and ability to protect tissues from free radical damage.[13,14] It has been shown that pomegranates can have up to three times more antioxidants than green tea or red wine. In addition, the specialized blend of flavonoid antioxidants in pomegranate fruit extract has been shown to enhance the activity of key detoxification enzymes while supporting and protecting kidney function to increase the elimination of toxins through urinary excretion.[15-18]

Watercress Extract†

Watercress is a unique cruciferous vegetable that is a member of the cabbage family Brassicaceae. It is a nutrient-dense green plant that has been shown to boost the body's detoxification mechanisms. Studies demonstrate that watercress helps reduce oxidative stress from total toxic load on the liver while also having a protective effect on kidney function.[19] Watercress also promotes urinary flow to enhance the elimination of toxins via the urine.

Lipoic Acid†

Lipoic acid is a potent antioxidant that has been shown to increase glutathione, vitamin E and vitamin C levels in the body.[20] Lipoic acid has been shown to support Phase II biotransformation by increasing the activity of enzymes, including NAD(P)H, quinone reductase and glutathione-Stransferase.[21] In a study investigating the molecular mechanisms and therapeutic potential of lipoic acid, it was observed that it significantly increased GSH in various cell types.[22]

Green Tea Leaf Extract†

Green tea is one of the most widely consumed beverages throughout the world. One of the main polyphenols in green tea includes epigallocatechin-3-gallate (EGCG). Green tea polyphenols have been shown to increase antioxidant protection. Green tea has also been shown to enhance liver detoxification. Studies demonstrate that green tea extract increases Phase II enzymes, such as glutathione transferase, NAD(P)H, quinone reductase epoxide hydrolase and UDPglucuronosyltransferase.[23] EGCG potentiates cellular defense capacity against chemical toxins, ultraviolet radiation and oxidative stress.[24]

Rosemary Leaf Extract†

Rosemary includes polyphenols that are potent antioxidants.[25] Carnosol, an antioxidant in rosemary, induces glutathione-s-transferase and other important Phase II enzymes.[26] Rosemary essential oil and carnosol have also been shown to increase GSH levels.[27]

Vegetable Antioxidant Blend†

CORE DETOX contains a blend of high-concentration superfood vegetables with significant antioxidant potential. The blend is high in ORAC value (oxygen radical absorbance capacity, a method of measuring antioxidant activity) and includes health-promoting compounds, like sulforaphane and glucosinolates. Cruciferous vegetables, including broccoli, kale and Brussels sprouts, increase the enzyme activity of both Phase I and Phase II biotransformation pathways.[28] Sulforaphane induces Phase II enzymes and supports the body's response to oxidative stress to maintain normal inflammatory balance.[29] Glucosinolates serve as precursors for biologically active metabolites, which induce Phase II enzymes via the activation of Nrf2, the master cellular switch responsible for antioxidant production.[30]

Schisandra Berry Extract†

Schisandra is an adaptogenic botanical used medicinally to help fight off the physical and mental effects of stress. Schisandra is

also used to support liver health and neutralize the effects of toxin exposure. Schisandra enhances liver biotransformation pathways by increasing the levels of reduced glutathione in the liver as well as glutathione reductase and glutathione-S-transferase activity. In animal studies, schisandra has been shown to support Phase I metabolism and protect the liver from free radical damage induced by toxic chemical exposure following ingestion of carbon tetrachloride.[31]

Fiber Blend†

The average recommendation for fiber intake is 25-30 g per day.[32] Only 5% of the population meets the daily requirement.[33] To help close the fiber intake gap and support the elimination of toxins, CORE DETOX provides a blend of diverse fibers, which includes resistant tapioca dextrin,[34] guar gum, flaxseed flour,[35] glucomannan,[36-39] fig and prune fiber, and arabinogalactan from larch trees. This fiber blend supports a higher level of microbial richness and diversity as well as intestinal barrier function.[40] Optimal microbiome balance plays a crucial role in elimination by influencing the metabolism of both exogenous and endogenous toxins.[41-43] In addition, fiber provides fuel for a healthy and diverse gut microbiome, which supports bile acid production and secretion to aid in the removal of toxins.[44-46]

Fiber has also been shown to have a strong positive impact on both metabolic and gut health markers. One randomized, double-blind, placebo-controlled clinical study showed resistant dextrin increased satiety and reduced feelings of hunger. This information points to the importance of fiber for those who are looking for better elimination, gut health and weight management.[47]

Directions

Mix 2 scoops of CORE DETOX with 8-10 ounces of the beverage of your choice to the desired thickness, 2 times daily or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, artificial colors or flavors.

Cautions

Do not consume this product if you are pregnant or nursing. Consult your physician for further information.

Because Glucomannan is a bulk-forming fiber, the drink becomes viscous within 20 minutes of its preparation. Without drinking enough liquid, the product may swell in the throat, causing blockage or choking. Avoid use if you have ever had esophageal narrowing or swallowing difficulties.

Supplement Facts V4

Serving Size 2 Scoops (33.8 Grams)
Servings Per Container About 14

	Amount Per Serving	% Daily Value
Calories	120	
Total Fat	1 g	1%*
Total Carbohydrate	12 g	4%*
Dietary Fiber	8 g	29%*
Total Sugars	1 g	**
Protein	15 g	30%*
Calcium	80 mg	6%
Iron	1.5 mg	8%
Magnesium	110 mg	26%
Sodium	35 mg	2%
Potassium	300 mg	6%
Rice Protein	18.9 g	**
Fiber Blend	6.7 g	
Resistant Tapioca Dextrin		**
Flaxseed Flour		**
Guar Gum Fiber (Sunfiber®)		**
Glucomannan (*Amorphophallus konjac*) (Root)		**
Fig (Fruit)		**
Prune		**
Arabinogalactan Heartwood (from Larch Tree)		**
Glycine USP	750 mg	**
Magnesium Citrate USP	750 mg	**
Potassium Citrate USP	750 mg	**
Vegetable Antioxidant Blend	500 mg	
Broccoli Sprout Concentrate		**
Onion Extract (Bulb)		**
Broccoli (Herb Top)		**
Tomato (Fruit)		**
Carrot (Root)		**
Spinach (Leaf)		**
Kale (Leaf)		**
Brussels Sprout (Bud)		**
Taurine USP	250 mg	**
Calcium Citrate USP	230 mg	**
Pomegranate Fruit Extract (Pomanox®)	200 mg	**
L-Glutamine USP	150 mg	**
Acetyl L-Carnitine Hydrochloride (MitoCarn®)	125 mg	**
N-Acetyl-L-Cysteine USP	125 mg	**
Watercress Extract (Aerial Parts)	100 mg	**
Alpha Lipoic Acid	50 mg	**
Green Tea Leaf Extract (Standardized to contain 45% EGCg (Epigallocatechin gallate))	50 mg	**
Rosemary Leaf Extract	50 mg	**
Schisandra Berry Extract	50 mg	**
Ellagic Acid	25 mg	**
Glucosinolates	1 mg	**

* Percent Daily Values are based on a 2,000 calorie diet.
** Daily Value not established.

Other Ingredients: Natural Flavors, Rebaudioside M and Ascorbyl Palmitate.

† 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.

Supplement Facts V5

Serving Size 2 Scoops (35.3 Grams) Servings Per Container About 14

	Amount Per Serving	% Daily Value
Calories	130	
Total Fat	1.5 g	2%*
Saturated Fat	0.5 g	3%*
Total Carbohydrate	12 g	4%*
Dietary Fiber	8 g	29%*
Total Sugars	1 g	**
Protein	15 g	30%*
Calcium	70 mg	5%
Iron	4 mg	22%
Magnesium	110 mg	26%
Sodium	10 mg	<1%
Potassium	600 mg	13%
Rice Protein	17.4 g	**
Fiber Blend	6.7 g	
Resistant Tapioca Dextrin		**
Flaxseed Flour		**
Guar Gum Fiber (Sunfiber®)		**
Glucomannan (*Amorphophallus konjac*) (Root)		**
Fig (Fruit)		**
Prune		**
Arabinogalactan Heartwood (from Larch Tree)		**
Glycine USP	750 mg	**
Magnesium Citrate USP	750 mg	**
Potassium Citrate USP	750 mg	**
Vegetable Antioxidant Blend	500 mg	
Broccoli Sprout Concentrate		**
Onion Extract (Bulb)		**
Broccoli (Herb Top)		**
Tomato (Fruit)		**
Carrot (Root)		**
Spinach (Leaf)		**
Kale (Leaf)		**
Brussels Sprout (Bud)		**
Taurine USP	250 mg	**
Calcium Citrate USP	230 mg	**
Pomegranate Fruit Extract (Pomanox®)	200 mg	**
L-Glutamine USP	150 mg	**
Acetyl L-Carnitine Hydrochloride (MitoCarn®)	125 mg	**
N-Acetyl-L-Cysteine USP	125 mg	**
Watercress Extract (Aerial Parts)	100 mg	**
Alpha Lipoic Acid	50 mg	**
Green Tea Leaf Extract (Standardized to contain 45% EGCg (Epigallocatechin gallate))	50 mg	**
Rosemary Leaf Extract	50 mg	**
Schisandra Berry Extract	50 mg	**
Ellagic Acid	25 mg	**
Glucosinolates	1 mg	**

* Percent Daily Values are based on a 2,000 calorie diet.
** Daily Value not established.

Other Ingredients: Natural Flavors, Rebaudioside M and Ascorbyl Palmitate.

ID# 681001 (Core Support Chocolate)
NET WT. 1 lb 1.43 oz (17.43 oz) (494.2 g)

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