

EndoAxis

Formula 3.5

DETOX SUPPORT

Focused nutrients to optimize phase 2 and phase 3 detox.

AT A GLANCE

Sex hormones are cholesterol-based signaling molecules (“steroid hormones”). This means that when they reach an expiration in circulation, our liver primarily (as well as fat tissue and colon) must transform those fat-based structures into a water-soluble intermediate through phase 1 detox (the CYP450 enzymes). Those intermediates then undergo phase 2 transformation through glucuronidation (UGT), Sulfation (SULT), Methylation (COMT), Acetylation (NAT) or direct glutathione reduction (GST). Once conjugated, these neutralized by-products can be easily bound to bile to excrete into urine or stool, a process called phase 3 detoxification.

Phase 2 detoxification of estrogen is dependent on several phase 2 enzymes, including methylation (COMT), Sulfation (SULT), glucuronidation (UGT) AND glutathione reduction. When we capture an imbalance or “backlog” of 2-OH estrogens, and witness lower production of 2-methoxy estrogens, OR when we see high levels of 16-OH estrogens, there may be concern for sluggish phase 2 and phase 3 detox.

Whenever we address phase 1 or phase 2 detox, it is critical to also support phase 3, as the final elimination pathway of any hormone needs to be working optimally for all other upstream conjugation to occur in harmony with the body. Our evidence-based formulation targets phase 1 and 2 detox pathways, coupled with potent phase 3 support to ensure transformation and conjugation of our sex hormones occurs in an appropriate and healthy manner.

Meet Restore

Designed to move, alter and transform our detox intermediates into less reactive and more easily eliminated by-products. Supporting our hormone balance.



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KEY BENEFITS



Optimizes phase 1, 2 and 3 detox pathways



Improves gastrointestinal health



Reduces oxidative stress while balancing hormones

FORMULA ANALYSIS

PHASE 1 SUPPORT

Diindolylmethane, or DIM, is a compound found in cruciferous vegetables such as broccoli and cabbage. It has gained attention for its ability to support estrogen metabolism by promoting the activity of the CYP1A and, to a lesser extent, CYP 1B pathways[1].

TruBroc – Sulforaphane: We have partnered with the creators of TruBroc, a company that prides themselves on creating bio-active, potent, and 3rd party tested Sulforaphane to maximize our detox formulations. Sulforaphane acts as a potent activator of CYP450 enzymes, enhancing phase 1 detoxification pathways, while also supporting sulfation (a phase 2 detoxification step for estrogens). Sulforaphane is considered one of the most potent enhancers for cellular detoxification, and works upstream to protect DNA from oxidative stress and aging[2].

CATECHOL-O-METHYLTRANSFERASE SUPPORTERS

Blended **magnesium malate** and **glycinate**, with a total of over 300 mg per day to optimize COMT activity[3].

L-methionine and **L-serine** support folate methylation without the direct use of methyl-folate, while also encouraging direct SAME production[4].

Taurine is included to support sulfation and glutathione reduction, while also providing biliary support[5][6].

Trimethyl glycine is added at a therapeutic dose of 1 g daily for folate-independent methylation support[7].

Targeted **B vitamins** for COMT and broad methylation and sulfation support, including calcium methyl-folate, hydroxocobalamin, niacinamide, riboflavin, thiamine and pyridoxal-5-phosphate.

ANTIOXIDANTS

N-Acetylcysteine (NAC) is a precursor to glutathione, our bodies master antioxidant. By replenishing glutathione levels, NAC supports the body's antioxidant defense system and aids in the removal of toxic substances, including estrogen metabolites[8].

GASTROINTESTINAL CONJUGATION

Calcium-d-glucarate (CDG), is a natural substance found in fruits and vegetables[9]. It aids in estrogen detoxification by inhibiting the enzyme beta-glucuronidase, which can reactive toxic estrogen metabolites in the gut[10]. By blocking this enzyme, CDG promotes the elimination of estrogen, reducing the potential harmful influence high estrogen can have in the body.

Contains TruBroc (a trademark of Brassica Protection Products, LLC)– a highly bio-available glucoraphanin that converts to long-lasting sulforaphane in our gut.

SUPPLEMENT FACTS

Serving Size 2 Capsules
Servings Per Container 60

Amount Per Serving		% Daily Value
Thiamin (as thiamin hydrochloride)	15 mg	1250%
Riboflavin (as 50% riboflavin and 50% riboflavin 5-phosphate)	15 mg	1154%
Niacin (as niacinamide)	50 mg	313%
Vitamin B ₆ (as pyridoxal-5-phosphate)	7.5 mg	441%
Folate (as calcium l-5-methyltetrahydrofolate)	200 mcg	50%
Vitamin B ₁₂ (as hydroxocobalamin)	125 mcg	5208%
Calcium (as calcium d-glucarate)	32.5 mg	3%
Magnesium (as 50% magnesium glycinate and 50% magnesium malate)	13.1 mg	3%
Molybdenum (as sodium molybdate)	14.9 mcg	33%
Calcium D-Glucarate (Tetrahydrate Form)	250 mg	†
Trimethylglycine (as betaine anhydrous)	250 mg	†
Taurine	150 mg	†
N-acetyl-L-cysteine	100 mg	†
L-Methionine	75 mg	†
BioResponse DIM® Proprietary Complex (Starch, diindolylmethane, Vitamin E [as tocophersolan], phosphatidyl choline, silica)	50 mg	†
Broccoli (<i>Brassica oleracea italica</i>) (seed powder extract (13% glucoraphanin) (TrueBroc®))	25 mg	†
L-Serine	15 mg	†

† Daily Value not established

Other ingredients: Vegetable capsule (hypromellose), magnesium stearate, silicon dioxide, and microcrystalline cellulose.

SUGGESTED USE

Take 2 capsules 2 times a day with a meal or as directed by your healthcare practitioner.

CAUTION: Do not use if pregnant or nursing. Consult your physician before use if you have a medical condition, or taking any medication. Do not use product if the safety seal is broken or damaged. Keep out of reach of children.

MADE WITHOUT

Wheat, gluten, corn, yeast, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners, or preservatives.

*These statements have not been evaluated by the Food & Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

REFERENCES

1. Hodges RE, Minich DM. Modulation of Metabolic Detoxification Pathways Using Foods and Food-Derived Components: A Scientific Review with Clinical Application. *J Nutr Metab*. 2015;2015:760689. doi: 10.1155/2015/760689. Epub 2015 Jun 16. PMID: 26167297; PMCID: PMC4488002.
2. Houghton CA. Sulforaphane: Its "Coming of Age" as a Clinically Relevant Nutraceutical in the Prevention and Treatment of Chronic Disease. *Oxid Med Cell Longev*. 2019 Oct 14;2019:2716870. doi: 10.1155/2019/2716870. PMID: 31737167; PMCID: PMC6815645.
3. Bastos P, Araújo JR, Azevedo I, Martins MJ, Ribeiro L. Effect of a natural mineral-rich water on catechol-O-methyltransferase function. *Magnes Res*. 2014 Jul-Sep;27(3):131-41. doi: 10.1684/mrh.2014.0369. PMID: 25560240.
4. Mahmoud AM, Ali MM. Methyl Donor Micronutrients that Modify DNA Methylation and Cancer Outcome. *Nutrients*. 2019 Mar 13;11(3):608. doi: 10.3390/nu11030608. PMID: 30871166; PMCID: PMC6471069.
5. Schaffer S, Kim HW. Effects and Mechanisms of Taurine as a Therapeutic Agent. *Biomol Ther (Seoul)*. 2018 May 1;26(3):225-241. doi: 10.4062/biomolther.2017.251. PMID: 29631391; PMCID: PMC5933890.
6. Kwon Y. Possible Beneficial Effects of N-Acetylcysteine for Treatment of Triple-Negative Breast Cancer. *Antioxidants (Basel)*. 2021 Jan 24;10(2):169. doi: 10.3390/antiox10020169. PMID: 33498875; PMCID: PMC7911701.
7. Steenge GR, Verhoef P, Katan MB. Betaine supplementation lowers plasma homocysteine in healthy men and women. *J Nutr*. 2003 May;133(5):1291-5. doi: 10.1093/jn/133.5.1291. PMID: 12730412.
8. Kwon Y. Possible Beneficial Effects of N-Acetylcysteine for Treatment of Triple-Negative Breast Cancer. *Antioxidants (Basel)*. 2021 Jan 24;10(2):169. doi: 10.3390/antiox10020169. PMID: 33498875; PMCID: PMC7911701.
9. Dwivedi C, Heck WJ, Downie AA, Larroya S, Webb TE. Effect of calcium glucarate on beta-glucuronidase activity and glucarate content of certain vegetables and fruits. *Biochem Med Metab Biol*. 1990 Apr;43(2):83-92. doi: 10.1016/0885-4505(90)90012-p. PMID: 2346674.
10. Calcium-D-glucarate. *Altern Med Rev*. 2002 Aug;7(4):336-12 9. PMID: 12197785.