XenoProtX™ is a comprehensive formula designed to support phase I and phase II liver detoxification of environmental pollutants, endocrine disruptors, estrogen metabolites, xenoestrogens, and other toxins. XenoProtX also supports antioxidant activity throughout the detoxification process. Micronutrients, phytonutrients, and activated cofactors provide additional support for energy production, cellular protection, and liver function during crucial metabolic biotransformation processes.*

Clinical Applications

» Provides Micronutrients, Phytonutrients, and Cofactors that Support Detoxification of Xenobiotics and Xenoestrogens*

» Supports Healthy Estrogen Metabolism*

» Supports Antioxidant Mechanism and Glutathione Production*

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Discussion

Xenobiotics (chemicals foreign to a living organism) have the potential to disrupt metabolism and negatively affect cellular health.[1-3] Classes of xenobiotics include pesticides, petroleum-based plastic compounds, industrial chemicals, and xenoestrogens. XenoProtX™ comprises an array of compounds to support detoxification and elimination of these potentially toxic molecules. Man-made xenoestrogens (including BPA, DDT, and DES), act as endocrine disruptors and can alter hormonal function in sensitive tissues including breast, uterus, cervix, and prostate.[4,5] Xenoestrogens at very low levels are believed to disrupt neurotransmitter balance, glucose homeostasis, normal reproduction, and healthy metabolism.[6] Detoxification of xenobiotics is a complex process that requires micronutrients, phytonutrients, energy, and adequate antioxidant support for safe and effective completion.[6,9]

Antioxidant and Detoxification Support Several nutrients support antioxidant activity, both phases of detoxification, and the health and function of the liver (the major site of detoxification). Milk thistle extract contains silimarin, a compound found to limit the entry of hepatotoxins, donate sulfhydryl groups for detoxification, and increase hepatic glutathione by over 35%.[7] Its action in the liver reduces fat peroxidation and fibrous tissue formation, supports a normal immune and inflammatory response, promotes protein synthesis and tissue regeneration, and supports glutathione and glutathione levels.[8] Alpha-lipoic acid is both water- and fat-soluble. It supports glutathione metabolism, helps regenerate antioxidant vitamins C and E, and helps maintain the ratio of reduced-to-oxidized CoQ10 in mitochondria.[7] The redox couple of lipoic acid and dihydrolipoic acid stabilizes NF-kappaB transcription and may help support healthy immune functions in the body.[8,10] Methylselenocysteine (MSC) is considered a well-tolerated form of the trace element selenium and may support normal cell-life regulation.[11] Selenium provides antioxidant support via glutathione peroxidase and manganese superoxide dismutase (MnSOD) activity.[12] N-acetyl-cysteine (NAC) may significantly increase glutathione in the body, which, in turn, is incorporated into crucial antioxidant and detoxification enzymes. Glutathione supports antioxidant activity, phase II detoxification, and the normal breakdown of metabolites, toxins, and other compounds. NAC supports phase II sulfation reactions as well.[7] Calcium D-glucarate has been added to support glucuronidation. 5-methyltetrahydrofolate (5-MTHF) is present as Quatrefolic® (a stable, bioavailable form of folate) to support methylation, energy generation, and phase I and phase II activity.*

Phytonutrients A variety of phytonutrients support antioxidant activity in the body. Green tea catechins have been found to assist in free-radical scavenging, support detoxification through modification of phase I and phase II enzymes, and support normal cell-life regulation via multiple signaling pathways.[13,14] Bioflavonoids, including resveratrol, quercetin, and the highly absorbable FlavipURE™ form of dihydroquercetin (DHQ), support phase I detoxification as well as intermediary antioxidant protection.[15] Pterostilbene, a highly absorbable, methylated form of resveratrol, is thought to work together with quercetin in supporting normal cell-life regulation.[15] Turmeric extract provides curcumin, a phytonutrient valued for its promotion of antioxidant activity, support of metabolic detoxification, and modulation of cytokine production.[16,17] BioPerine®, a patented form of piperine from black pepper, has been added to enhance the absorption of nutrients, particularly curcumin.[18]

Xenoestrogen Metabolism XenoProtX provides diindolymethane (DIM) and glucoraphanin as SGS™. DIM promotes healthy estrogen metabolism and creates a better balance of estrogen metabolites (2-OH, 4-OH, 16-alpha-OH) through phase I cytochrome P450 enzyme induction and promotion of 2-hydroxylation.[19,20] The action of DIM is complemented by glucoraphanin, which supports long-term antioxidant activity and phase II detoxification of less-desirable estrogen metabolites and xenoestrogens.[21,22] Glucoraphanin and its metabolite sulforaphane are found to be effective, long-acting, indirect antioxidants and significant inducers of phase II detoxification enzymes.[23,24] These actions may help support healthy estrogen balance and may be crucial for the health of estrogen-sensitive tissue.*

Available in 120 capsules

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*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.
XenoProt™ Supplement Facts

<table>
<thead>
<tr>
<th>Serving Size: 2 Capsules</th>
<th>Amount Per Serving</th>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folate (as Quatrefolic® (BS)-5-methyltetrahydrofolate acid, glucosamine salt)</td>
<td>200 mcg</td>
<td>50%</td>
</tr>
<tr>
<td>Calcium (naturally occurring)</td>
<td>75 mg</td>
<td>8%</td>
</tr>
<tr>
<td>Selenium (as methylselenocysteine)</td>
<td>15 mcg</td>
<td>1%</td>
</tr>
<tr>
<td>Calcium D-Glucarate</td>
<td>250 mg</td>
<td>**</td>
</tr>
<tr>
<td>Green Tea Aqueous Extract (Camellia sinensis) (leaf) (80% polyphenols, 60% catechins, 30% EGCG, 5% caffeine)</td>
<td>250 mg</td>
<td>**</td>
</tr>
<tr>
<td>Alpha-Lipoic Acid</td>
<td>100 mg</td>
<td>**</td>
</tr>
<tr>
<td>N-Acetyl-L-Cysteine</td>
<td>100 mg</td>
<td>**</td>
</tr>
<tr>
<td>Milk Thistle Extract (Silybum marianum) (seed) (80% silymarin)</td>
<td>100 mg</td>
<td>**</td>
</tr>
<tr>
<td>DIM (diindolylmethane)</td>
<td>75 mg</td>
<td>**</td>
</tr>
<tr>
<td>Quercetin (as quercetin dihydrate) (from Sophora japonica) (bud)</td>
<td>50 mg</td>
<td>**</td>
</tr>
<tr>
<td>Turmeric Extract (Curcuma longa) (rhizome) (95% curcuminooids)</td>
<td>50 mg</td>
<td>**</td>
</tr>
<tr>
<td>Trans-Resveratrol (as Polygonum cuspidatum root extract)</td>
<td>18.5 mg</td>
<td>**</td>
</tr>
<tr>
<td>Trans-Pterostilbene (pTeroPure®)</td>
<td>15.5 mg</td>
<td>**</td>
</tr>
<tr>
<td>Glucoraphanin (from broccoli extract) (Brassica oleracea italica) (seed) (truebroccoli)</td>
<td>15 mg</td>
<td>**</td>
</tr>
<tr>
<td>Dihydroquercetin (from Larix Tree Extract) (Larix dahurica, Larix gmelini, Larix sibirica ledeeb., Larix cajanderi, Larix czechanowski, Larix russia, Larix sukaczewii (saw logs) (DHQvital®)</td>
<td>5 mg</td>
<td>**</td>
</tr>
<tr>
<td>Black Pepper Extract (Piper nigrum) (fruit) (BioPerine®)</td>
<td>5 mg</td>
<td>**</td>
</tr>
</tbody>
</table>

** Daily Value not established.

Other Ingredients: HPMC (capsule), tricalcium phosphate, stearic acid, magnesium stearate, and silica.

DIRECTIONS: Take two capsules daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged.

STORAGE: Keep closed in a cool, dry place out of reach of children.

DOES NOT CONTAIN: Wheat, gluten, yeast, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

pTeroPure is a trademark of ChromaDex, Inc. BioPerine is a registered trademark of Sabinsa Corp. BioPerine is protected by US patents 5,536,506; 5,744,161; 5,972,382; and 6,054,585.

DHQvital is a trademark of Berg Imports, LLC.

Quatrefolic® is a registered trademark of Gnosis S.p.A. Produced under US patent 7,947,662.

† Quatrefolic® is a registered trademark of Gnosis S.p.A. Produced under US patent 7,947,662.

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All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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References