Glu-Chol Protect is designed to help support cardiometabolic health. It delivers both alpha-lipoic acid (ALA) and the plant alkaloid berberine in one convenient formula. These ingredients have been observed to support insulin activity and glucose metabolism. More recent research also suggests a role for berberine in supporting normal A1C levels.*

Clinical Applications

- Supports Glucose Metabolism and Insulin Sensitivity*
- Supports Healthy Blood Lipid Metabolism*
- Assists the Body in Maintaining Normal Levels of HbA1c*
- Positively Influences Adipocyte Differentiation and PPAR Expression
- Associated with Adipogenesis*
- Provides Antioxidant Support*

Discussion

Berberine As a naturally occurring botanical extract, berberine is commonly isolated from plants such as Oregon grape, barberry, and goldenseal. Two other berberine-containing plants that are familiar to practitioners of Chinese medicine are Phellodendron chinense and Phellodendron amurense—the latter being the source of berberine in Glu-Chol Protect. Berberine is known as an alkaloid, and plants containing berberine have traditionally been used for their various health-promoting properties. Research has demonstrated that berberine helps regulate glucose and lipid metabolism, positively influences cell signaling, provides antioxidant support, and impacts immune health.

Adenosine Monophosphate-Activated Protein Kinase (AMPK) As the primary enzyme that induces an intracellular cascade of events, AMPK is responsible for maintaining and replenishing cellular energy stores. AMPK activation stimulates glucose uptake and fat oxidation while it suppresses lipogenesis and gluconeogenesis. Cumulatively, AMPK activation leads to beneficial metabolic states in liver, muscle, and peripheral tissues. Of the natural products known to activate AMPK, berberine is one of the most prominent. AMPK activation by berberine was reported as early as 2006. Since that time, berberine-mediated AMPK activation has been repeatedly demonstrated, and this mechanism is thought to be central to the beneficial effects on glucose metabolism, insulin sensitivity, cytokine activity, and cardiovascular health observed in patients taking berberine.*

Alpha-Lipoic Acid (ALA) ALA is a multifunctional antioxidant also known as thiotic acid. It has numerous effects that complement berberine. These effects include reducing oxidative stress, regenerating antioxidants, increasing glutathione synthesis, boosting antioxidant defense systems at the gene-expression level, stimulating AMPK activation, affecting adipocyte differentiation, and increasing insulin-stimulated glucose disposal. Furthermore, ALA inhibits nuclear factor-κB (NF-κB), a transcription factor that activates many proinflammatory genes in the vasculature, making ALA an excellent pairing to berberine for cardiometabolic health. *

*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.
Serving Size: 2 Capsules
Servings Per Container: 60

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berberine HCl</td>
<td>500 mg</td>
</tr>
<tr>
<td>Alpha-Lipoic Acid</td>
<td>250 mg</td>
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</tbody>
</table>

**Other Ingredients:** HPMC (capsule), ascorbyl palmitate, L-leucine, silica, and medium-chain triglyceride oil.

**Does Not Contain**
Wheat, gluten, corn, yeast, soy, dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

**Directions**
Take two capsules twice daily, or as directed by your healthcare practitioner.

**References**

**Cautions**
Consult your healthcare practitioner prior to use. Individuals taking medications, especially medications that are metabolized by cytochrome P450 enzymes or that affect blood glucose, should discuss potential interactions with their healthcare practitioner. Do not use if you are pregnant, nursing, or trying to conceive. Do not use if tamper seal is damaged. Keep out of reach of children.

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