Calcium D-Glucarate

Clinical Applications
- Provides the Patented Form of Supplemental D-Glucaric Acid
- Reduces Beta-Glucuronidase Activity for Increased Glucuronidation of Unwanted Compounds*
- Increased Glucuronidation Supports Detoxification and Elimination of Chemicals, Steroid Hormones (Estrogens, Androgens), and Lipid-Soluble Toxins*

Calcium D-Glucarate is the supplemental, patented calcium salt form of D-glucaric acid—a substance produced naturally in the body and obtained through consumption of certain fruits and vegetables. Calcium D-glucarate has been extensively studied by researchers at the MD Anderson Cancer Center, and its health benefits are largely attributed to inhibition of beta-glucuronidase; this activity supports the body’s ability to detoxify estrogens, xenobiotics, and fat-soluble toxins.*

Glucuronidation and Beta-Glucuronidase During phase II detoxification, unwanted chemicals or compounds are conjugated with glucuronic acid in the liver (glucuronidation) to form glucuronide conjugates that can then be excreted via the urine or bile. Glucuronidation is the pathway used by estrogens and androgens; some steroid hormones; lipid-soluble toxins, such as polycyclic aromatic hydrocarbons; and some nitrosamines, heterocyclic amines, and aromatic amines. This pathway also represents a major means of converting most drugs to water-soluble substances that can be excreted.*

Beta-glucuronidase, an enzyme produced by intestinal bacteria, cleaves glucuronic acid from the glucuronide conjugates formed during phase II detoxification. This cleaving activity frees the unwanted compounds (e.g., toxins), allowing their reabsorption by the ileal mucosa. When this happens, the body is re-exposed to toxins for prolonged periods, which can increase their potential to harm. CGT is converted metabolically to an inhibitor of beta-glucuronidase in the intestine, thereby preventing deconjugation and reabsorption of toxins while increasing their elimination.*

Modulating Beta-Glucuronidase Activity As stated earlier, CGT does not inhibit beta-glucuronidase directly. Taken orally, it dissolves in the stomach and forms D-glucaric acid, from which the potent beta-glucuronidase inhibitor D-glucaro-1,4-lactone is derived.[5] Unfortunately, the body rapidly clears D-glucaro-1,4-lactone. However, oral calcium D-glucarate can be considered a sustained release form of the D-glucaro-1,4-lactone.[5] Animals given a single dose of oral calcium D-glucarate showed a 50% inhibition of beta-glucuronidase for five hours.[5] In vitro and animal studies suggest that the inhibition of beta-glucuronidase protects cells and supports normal cell replication and death (apoptosis).[5] These benefits of D-glucaric acid and its salts have been observed in tissues of the colon, prostate, lung, liver, skin, and breast in animal-model studies.[5,6,7] These in vitro and animal data are promising, and researchers postulate that controlled human trials will reflect similar results.*

Antioxidant Activity Although the mechanisms of action have not been clearly elucidated, the antioxidant effects of CTG have been demonstrated.[8-10] For instance, Olas et al showed that D-glucaro-1,4-lactone was protective against oxidative/nitrative modifications of plasma proteins.[9]

*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.
**Calcium D-Glucarate 500 mg**

**Serving Size:** 1 Capsule  
**Servings Per Container:** 90

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value</th>
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<tbody>
<tr>
<td>Calcium (as calcium D-glucarate)</td>
<td>60 mg</td>
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<tr>
<td>Calcium D-Glucarate</td>
<td>500 mg</td>
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**Daily Value not established.**

**Other Ingredients:** HPMC (capsule), stearic acid, microcrystalline cellulose, magnesium stearate, and silica.

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**Directions**

Take one capsule twice daily, or as directed by your healthcare practitioner.

Children and pregnant or lactating women should consult their healthcare practitioner prior to use. Do not use if tamper seal is damaged.

**References**


**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 preservatives.

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