Calcium D-Glucarate
Naturally Enhancing Glucuronidation – A Detoxification System

DESCRIPTION
Calcium D-Glucarate, provided by Douglas Laboratories, is a natural supplement of D-glucaric acid bound to calcium.

FUNCTIONS
Calcium D-glucarate enhances the body's natural defenses against environmental toxins and excess steroid hormones. Through the actions of its metabolite D-glucaro-1,4-lactone, calcium-d-glucarate indirectly favors glucuronidation, an important system that the body relies upon to deactivate and eliminate toxins and steroid hormones.

Glucuronidation is a conjugation process through which potentially carcinogenic environmental toxins, such as polycyclic aromatic hydrocarbons and nitrosamines, and excess steroid hormones are neutralized. During glucuronidation, the enzyme glucuronosyl transferase catalyzes the conjugation of free carcinogens and steroid hormones to glucuronic acid. The resulting glucuronide-bound toxins and hormones can then be safely excreted in bile and urine.

The body also deconjugates glucuronide-bound end products. The release of glucuronide-bound substances is beneficial in some circumstances, for example, when the excretion of steroid hormones is undesirable. Yet, the deconjugation process, which works via the enzyme beta-glucuronidase, can result in the re-release of harmful toxins back into the body. The benefits of calcium D-glucarate are realized indirectly through the action of its metabolite D-glucaro-1,4-lactone, which inhibits the deconjugating enzyme beta-glucuronidase found in both blood and tissue. Inhibition of beta-glucuronidase causes a net increase in glucuronidation, and thereby enhances a primary detoxification pathway in the body. Animal studies have documented a decrease in B-glucuronidase activity in breast, liver, colon, skin, lung, and prostate tissue following oral administration of calcium D-glucarate. Once ingested, calcium D-glucarate is converted to D-glucaric acid in the presence of gastric HCl. The body normally maintains an equilibrium between D-glucaric acid and its two metabolites, D-glucaro-1,4-lactone and D-glucaro-6,3-lactone.

Calcium D-glucarate provides a slow-release source of D-glucaro-1,4-lactone. When taken directly, D-glucaro-1,4-lactone is metabolized quite quickly and is excreted from the body usually within 1-2 hours of its administration. Calcium D-glucarate, however, is metabolized slowly, remaining in the body for 5 or more hours after ingestion. This results in maintenance of stable levels of D-glucaro-1,4-lactone for long periods of time. D-glucaric acid is produced endogenously in small amounts. It is also present in some fruits and vegetables, including oranges, apples, grapefruit, broccoli and other cruciferous vegetables.

INDICATIONS
Calcium D-Glucarate may be a useful dietary supplement for those who wish to supplement their diet with D-glucaric acid as a precursor to D-glucaro-1, 4-lactone.

FORMULA (#98724)
Each capsule contains:
Calcium D-Glucarate..... 500 mg

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SUGGESTED USE
One to two capsules daily as a dietary supplement, or as directed by physician.

SIDE EFFECTS
No adverse effects have been reported.

STORAGE
Store in a cool, dry place, away from direct light. Keep out of reach of children.

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For more information on Calcium D-Glucarate, visit douglaslabs.com

† 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.

Manufactured by
Douglas Laboratories
600 Boyce Road
Pittsburgh, PA 15205
800-245-4440
douglaslabs.com