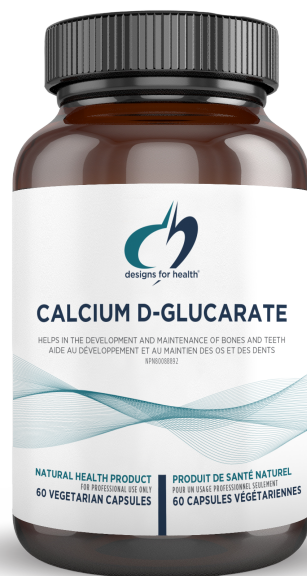




CALCIUM D-GLUCARATE

SUPPORTS THE BODY'S DEFENSE AGAINST TOXINS AND EXCESS STEROID HORMONES

60 VEGETARIAN CAPSULES | NPN80088892 | CDG060-CN



Calcium D-Glucarate is calcium bound to d-glucaric acid, which is a natural compound produced in small amounts by the human body and is abundantly found in various plant foods such as broccoli, cabbage, kale, apples, oranges, and grapefruit. Research shows that d-glucaric acid derivatives such as calcium d-glucarate help support the body's defense against toxins and excess sex hormones, making calcium d-glucarate a potential agent in aiding detoxification.

MECHANISM OF ACTION

In the GI tract, calcium d-glucarate is metabolized into three compounds, the most active being D-glucaro-1,4-lactone. This metabolite increases detoxification by inhibiting β -glucuronidase, an enzyme that can prevent proper and healthy excretion of potential toxins from the body.

During liver detoxification some toxins and hormones such as estrogen, are cleared via glucuronidation – a process where glucuronic acid is attached to a toxin in order to create a less toxic conjugate that can be readily eliminated by the body. In the case of liver detoxification, the substrates are most often foreign xenobiotic substances such as drugs and pollutants, as well as endogenously produced compounds like excess estrogens and androgens, mineralcorticoids, glucocorticoids, fatty acid derivatives, retinoids, and bile acids. These toxins and hormones, bound to glucuronic acid, are now ready to be safely eliminated.

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Elevated β -glucuronidase activity is associated with an increased risk for various types of cancer, in particular those that are hormone-dependent such as breast and prostate.¹ Therefore, inhibiting this enzyme increases the safe excretion of conjugated, toxic compounds and decreases their activity. Research shows that D-glucaro-1,4-lactone and its precursor calcium-d-glucarate may exhibit anti-cancer properties by altering the production of steroid hormones along with various changes in the body's hormonal environment.²

CALCIUM D-GLUCARATE SUPPLEMENTATION

Oral supplementation of calcium d-glucarate is an ideal way to provide the body with an efficient, slow-release source of D-glucaro- 1,4-lactone. By supplementing the calcium-stabilized form of d-glucarates, one can boost the body's natural defense mechanism for eliminating toxins, carcinogens, which may reduce their effects.

ANTI-CANCER PROPERTIES

The main focus of investigations into the anti-carcinogenic properties of d-glucaric acid and calcium d-glucarate has been on animal models of breast cancer, where studies have shown that oral supplementation of calcium-d-glucarate in rats can inhibit mammary tumor development by over 70%.³ Research shows that calcium d-glucarate helps to promote the proper elimination of excess estrogens. It works by inhibiting or delaying what is known as the second or 'promotion' phase of mammary carcinogenesis by decreasing endogenous levels of estradiol and precursors of androgenic sex hormones metabolites such as 17-ketosteroids.³ Since many cases of breast cancer are estrogen dependent, this supplement may be a supportive tool.

The mechanism of action of d-glucaric acid appears to be the same in regards to other types of cancer (i.e., prostate, colon, liver). The key lies in the inhibition of β -glucuronidase, where the carcinogens are safely excreted from the body, and glucuronide is supplied to the liver to conjugate toxins during phase II hepatic detoxification.

Calcium d-glucarate also appears to possess anti-inflammatory properties. It has been shown to decrease the level of pro-inflammatory cytokines in mice and increase the level of anti-inflammatory cytokines, helping to inhibit the growth of cancerous tumors in the lungs.⁴

Thus, calcium d-glucarate should be considered integral in assisting the detoxification process as it helps to prevent the recycling of potentially harmful, proliferative estrogenic hormones and environmental toxins, while promoting liver detoxification.

BENEFITS

- Supports detoxification of xenobiotics
- Supports healthy hormone metabolism and excretion

Medicinal Ingredients (per capsule):

Calcium (from 600 mg Calcium D-glucarate).....75 mg

Non-Medicinal Ingredients: Microcrystalline cellulose, cellulose (capsule), magnesium stearate (vegetable source). **Recommended Dose:** Adults: Take 2 capsules per day with meals, or as directed by your health care practitioner. Take a few hours before or after taking other medications or natural health products.

REFERENCES

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