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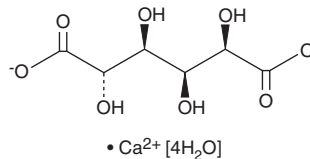
PRODUCT INFORMATION



Calcium D-Glucarate (hydrate)

Item No. 31490

CAS Registry No.: 5793-89-5
Formal Name: D-glucaric acid calcium salt, monohydrate
Synonyms: Calcium D-Saccharate, D-Glucaric Acid
Calcium Salt, D-Saccharic Acid Calcium Salt
MF: C₆H₈O₈ • Ca [4H₂O]
FW: 320.3
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Calcium D-glucarate (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the calcium D-glucarate (hydrate) in the solvent of choice, which should be purged with an inert gas. Calcium D-glucarate (hydrate) is slightly soluble in methanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of calcium D-glucarate (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. Calcium D-glucarate (hydrate) is slightly soluble in PBS, pH 7.2. We do not recommend storing the aqueous solution for more than one day.

Description

Calcium D-glucarate is the calcium salt form of D-glucaric acid.¹ D-Glucaric acid is an end product of D-glucuronic acid metabolism in mammals that has also been found in fruits and vegetables and has anticancer activity.² It is produced by the oxidation of D-glucuronic acid and is a precursor in the biosynthesis of the β-glucuronidase inhibitor D-glucaro-1,4-lactone (D-saccharic acid 1,4-lactone; Item No. 18896) *in vivo*.¹ Dietary administration of calcium D-glucarate (10% w/w) reduces tumor growth in a rat model of mammary tumorigenesis induced by 7,12-dimethylbenz[a]anthracene (DMBA).³ Urinary D-glucaric acid levels have been used as a marker for xenobiotic-induced phase II metabolism in patients with rheumatoid arthritis or individuals exposed to environmental toxicants.^{4,5}

References

1. Walaszek, Z. Potential use of D-glucaric acid derivatives in cancer prevention. *Cancer Lett.* **54(1-2)**, (1990).
2. Zóttaszek, R., Hanausek, M., Kiliańska, Z., *et al.* The biological role of D-glucaric acid and its derivatives: potential use in medicine. *Postepy. Hig. Med. Dosw. (Online)* **62**, 451-462 (2008).
3. Walaszek, Z., Hanausek-Walaszek, M., Minton, J.P., *et al.* Dietary glucarate as anti-promoter of 7,12-dimethylbenz[a]anthracene-induced mammary tumorigenesis. *Carcinogenesis* **7(9)**, 1463-1466 (1986).
4. Addyman, R., Beyeler, C., Astbury, C., *et al.* Urinary glucaric acid excretion in rheumatoid arthritis: influence of disease activity and disease modifying drugs. *Ann. Rheum. Dis.* **55(7)**, 478-481 (1996).
5. Idéo, G., Bellati, G., Bellohuono, A., *et al.* Urinary D-glucaric acid excretion in the Seveso area, polluted by tetrachloro-dibenzo-p-dioxin (TCDD): five years of experience. *Environ. Health Perspect.* **60**, 151-157 (1976).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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