

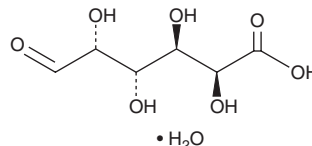
PRODUCT INFORMATION



D-Galacturonic Acid (hydrate)

Item No. 34416

CAS Registry No.: 91510-62-2
Formal Name: D-galacturonic acid, monohydrate
Synonyms: D-GalA, D-(+)-Galacturonic Acid
MF: C₆H₁₀O₇ • H₂O
FW: 212.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

D-Galacturonic acid (hydrate) is supplied as a solid. A stock solution may be made by dissolving the D-galacturonic acid (hydrate) in the solvent of choice, which should be purged with an inert gas. D-Galacturonic acid (hydrate) is soluble in the organic solvent DMSO at a concentration of approximately 5 mg/ml.

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 D-galacturonic acid (hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of D-galacturonic acid (hydrate) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

D-Galacturonic acid is a monosaccharide and the major component of pectin.¹ It is formed from glucose in a multi-step process in which uridine-5'-diphosphoglucuronic acid (UDP-glucuronic acid; Item No. 20674) is epimerized to UDP-galacturonic acid, from which D-galacturonic acid can be oligomerized to form pectin or metabolized to L-ascorbic acid (Item No. 14656), L-galactonic acid, galactaric acid, or D-(+)-xylose (Item No. 33236).^{1,2} D-Galacturonic acid (200, 400, and 800 mg/kg) increases body weight and reduces intestinal mucosal permeability in a rat model of iodoacetamide-induced functional dyspepsia.³

References

1. Gu, X. and Bar-Peled, M. The biosynthesis of UDP-galacturonic acid in plants. Functional cloning and characterization of Arabidopsis UDP-D-glucuronic acid 4-epimerase. *Plant Physiol.* **136(4)**, 4256-4264 (2004).
2. Loewus, F.A. and Kelly, S. The metabolism of D-galacturonic acid and its methyl ester in the detached ripening strawberry. *Arch. Biochem. Biophys.* **95(3)**, 483-493 (1961).
3. Wu, Y.-Y., Zhong, Z.-S., Ye, Z.-H., et al. D-galacturonic acid ameliorates the intestinal mucosal permeability and inflammation of functional dyspepsia in rats. *Ann. Palliat. Med.* **10(1)**, 538-548 (2021).

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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