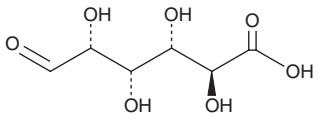
PRODUCT INFORMATION

D-Glucuronic Acid

Item No. 31531

CAS Registry No.:	6556-12-3
Synonym:	D-(+)-Glucuronic Acid
MF:	$C_6H_{10}O_7$
FW:	194.1
Purity:	≥95%
Supplied as:	A crystalline 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-Glucuronic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the D-glucuronic acid in the solvent of choice, which should be purged with an inert gas. D-Glucuronic acid is slightly soluble in DMSO.

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-glucuronic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of D-glucuronic acid in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

D-Glucuronic acid is a metabolite of glucose.[1,2] It is formed from glucose in a multi-step process in which uridine diphosphate glucose (UDP-α-D-glucose; Item No. 15602) is dehydrogenated to uridine diphosphate glucuronic acid (uridine-5'-diphosphoglucuronic acid; Item No. 20674), from which D-glucuronic acid can be transferred to a receptor to form glucuronides, further metabolized to ascorbic acid or xylulose, or excreted.[1] D-Glucuronic acid is a component of proteoglycans, including heparan sulfate and chondroitin sulfate.[3] Levels of D-glucuronic acid are increased in fibroblasts isolated from patients with infantile free sialic acid storage disease (ISSD) or Salla disease, lysosomal storage disorders characterized by truncal ataxia and psychomotor retardation and heptatosplenomegaly and impaired growth, respectively.[4]

References

1. Miettinen, T.A. and Leskinen, E. Enzyme levels of glucuronic acid metabolism in the liver, kidney and intestine of normal and fasted rats. *Biochem. Pharmacol.* **12(6)**, 565-575 (1963).
2. Dutton, G.J. and Storey, I.D.E. Glucuronide-forming enzymes: UDPglucuronic acid + R·OH → UDP + R·O· glucuronic acid. *Methods in Enzymology*. (1961).
3. Kwok, J.C.F., Warren, P., and Fawcett, J.W. Chondroitin sulfate: A key molecule in the brain matrix. *Int. J. Biochem. Cell Biol.* **44(4)**, 582-586 (2012).
4. Blom, H.J., Andersson, H.C., Seppala, R., *et al*. Defective glucuronic acid transport from lysosomes of infantile free sialic acid storage disease fibroblasts. *Biochem. J.* **268(3)**, 621-625 (1990).

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