

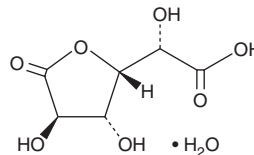
PRODUCT INFORMATION



D-Saccharic Acid 1,4-lactone (hydrate)

Item No. 18896

CAS Registry No.: 61278-30-6
Formal Name: 1,4-lactone D-glucaric acid, monohydrate
Synonym: D-Glucaro-1,4-lactone
MF: C₆H₈O₇ • H₂O
FW: 210.1
Purity: ≥95%
UV/Vis.: λ_{max}: 216 nm
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-Saccharic acid 1,4-lactone (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the D-saccharic acid 1,4-lactone (hydrate) in the solvent of choice, which should be purged with an inert gas. D-Saccharic acid 1,4-lactone (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of D-saccharic acid 1,4-lactone (hydrate) in these solvents is approximately 20 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-saccharic acid 1,4-lactone (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of D-saccharic acid 1,4-lactone (hydrate) 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-Saccharic acid 1,4-lactone is an inhibitor of β-glucuronidase (IC₅₀ = 45 μM for the human enzyme).¹ It is commonly used as a standard in the development of novel inhibitors of β-glucuronidase.^{1,2} D-Saccharic acid 1,4-lactone is also used to prevent the cleavage of glucuronides in plasma, serum, or urine by β-glucuronidase in samples.³

References

1. Khan, K.M., Saad, S.M., Shaikh, N.N., *et al.* Synthesis and β-glucuronidase inhibitory activity of 2-arylquinazolin-4(3H)-ones. *Bioorg. Med. Chem.* **22(13)**, 3449-3454 (2014).
2. Jamil, W., Perveen, S., Shah, S.A.A., *et al.* Phenoxyacetohydrazide Schiff bases: β-Glucuronidase inhibitors. *Molecules* **19(7)**, 8788-8802 (2014).
3. Lu, Q.Y., Zhang, L., Eibl, G., *et al.* Overestimation of flavonoid aglycones as a result of the ex vivo deconjugation of glucuronides by the tissue β-glucuronidase. *J. Pharm. Biomed. Anal.* **88**, 364-369 (2014).

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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