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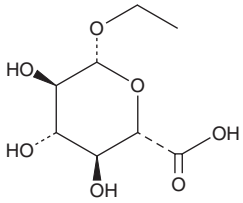
PRODUCT INFORMATION

Ethyl-β-D-Glucuronide

Item No. 22271

CAS Registry No.: 17685-04-0
Formal Name: β-D-glucopyranosiduronic acid, ethyl
Synonyms: Ethyl-β-D-Glucopyranosiduronic Acid, Ethyl-β-D-Glucosiduronic Acid
MF: $C_8H_{14}O_7$
FW: 222.2
Purity: ≥95%
Supplied as: A neat 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

Ethyl-β-D-glucuronide is supplied as a neat solid. A stock solution may be made by dissolving the ethyl-β-D-glucuronide in the solvent of choice, which should be purged with an inert gas. Ethyl-β-D-glucuronide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ethyl-β-D-glucuronide in these solvents is approximately 1 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 ethyl-β-D-glucuronide can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ethyl-β-D-glucuronide in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ethyl-β-D-glucuronide is a minor metabolite of ethanol.[1,2] It is primarily formed from ethanol by UDP glucuronosyltransferases (UGTs), but it can also be formed *via* β-glucuronidase cleavage and transfer of the glucuronide moiety in various non-ethanol-containing β-glucuronides to ethanol.[3] Hair levels of ethyl-β-D-glucuronide are positively correlated with alcohol consumption in patients with alcohol dependence syndrome.[4]

References

1. Schmitt, G., Aderjan, R., Keller, T., *et al.* Ethyl glucuronide: An unusual ethanol metabolite in humans. Synthesis, analytical data, and determination in serum and urine. *J. Anal. Toxicol.* **19(2)**, 91-94 (1995).
2. Beck, O., Stephanson, N., Bötthcer, M., *et al.* Biomarkers to disclose recent intake of alcohol: Potential of 5-hydroxytryptophol glucuronide testing using new direct UPLC-tandem MS and ELISA methods. *Alcohol*. **42(4)**, 321-325 (2007).
3. Müller , A., Aboutara, N., Jungen, H., *et al.* β-glucuronidase activity: Another source of ethyl glucuronide. *J. Anal. Toxicol*. **47(2)**, 114-120 (2023).
4. Ghosh, S., Jain, R., Rao, R., *et al.* Does ethyl glucuronide in hair correlate with alcohol consumption? A comparative study with other traditional biomarkers among individuals with alcohol dependence syndrome. *Alcohol* **105**, 55-60 (2023).

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