

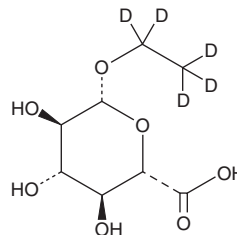
# PRODUCT INFORMATION



## Ethyl- $\beta$ -D-Glucuronide-d<sub>5</sub>

Item No. 22273

<b>CAS Registry No.:</b>	1135070-98-2
<b>Formal Name:</b>	$\beta$ -D-glucopyranosiduronic acid, ethyl-1,1,2,2,2-d <sub>5</sub>
<b>Synonyms:</b>	Ethyl- $\beta$ -D-Glucopyranosiduronic Acid-d <sub>5</sub> , Ethyl- $\beta$ -D-Glucosiduronic Acid-d <sub>5</sub>
<b>MF:</b>	C <sub>8</sub> H <sub>9</sub> D <sub>5</sub> O <sub>7</sub>
<b>FW:</b>	227.2
<b>Chemical Purity:</b>	≥98% (ethyl- $\beta$ -D-glucuronide)
<b>Deuterium Incorporation:</b>	≥99% deuterated forms (d <sub>1</sub> -d <sub>5</sub> ); ≤1% d <sub>0</sub>
<b>Supplied as:</b>	A solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥2 years



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

### Laboratory Procedures

Ethyl- $\beta$ -D-glucuronide-d<sub>5</sub> is intended for use as an internal standard for the quantification of ethyl- $\beta$ -D-glucuronide (Item No. 22271) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Ethyl- $\beta$ -D-glucuronide-d<sub>5</sub> is supplied as a solid. A stock solution may be made by dissolving the ethyl- $\beta$ -D-glucuronide-d<sub>5</sub> in the solvent of choice, which should be purged with an inert gas. Ethyl- $\beta$ -D-glucuronide-d<sub>5</sub> is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ethyl- $\beta$ -D-glucuronide-d<sub>5</sub> 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- $\beta$ -D-glucuronide-d<sub>5</sub> can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ethyl- $\beta$ -D-glucuronide-d<sub>5</sub> 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- $\beta$ -D-glucuronide is a minor metabolite of ethanol.<sup>1,2</sup> It is primarily formed from ethanol by UDP glucuronosyltransferases (UGTs), but it can also be formed *via*  $\beta$ -glucuronidase cleavage and transfer of the glucuronide moiety in various non-ethanol-containing  $\beta$ -glucuronides to ethanol.<sup>3</sup> Hair levels of ethyl- $\beta$ -D-glucuronide are positively correlated with alcohol consumption in patients with alcohol dependence syndrome.<sup>4</sup>

### References

- Schmitt, G., Aderjan, R., Keller, T., *et al.* *J. Anal. Toxicol.* **19**(2), 91-94 (1995).
- Beck, O., Stephanson, N., Böttcher, M., *et al.* *Alcohol Alcohol.* **42**(4), 321-325 (2007).
- Müller, A., Aboutara, N., Jungen, H., *et al.* *J. Anal. Toxicol.* **47**(2), 114-120 (2023).
- Ghosh, S., Jain, R., Rao, R., *et al.* *Alcohol* **105**, 55-60 (2023).

#### 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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