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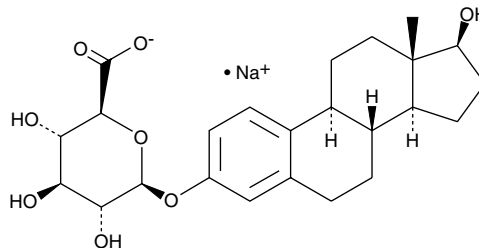
# Product Information



## Estradiol 3-( $\beta$ -D-Glucuronide) (sodium salt)

Item No. 16155

**CAS Registry No.:** 14982-12-8  
**Formal Name:** (17 $\beta$ )-17-hydroxyestra-1,3,5(10)-trien-3-yl  $\beta$ -D-glucopyranosiduronic acid, monosodium salt  
**Synonyms:** E<sub>2</sub>3G,  $\beta$ -Estradiol 3-( $\beta$ -D-Glucuronide), 17 $\beta$ -Estradiol 3-( $\beta$ -D-Glucuronide), 17 $\beta$ -Oestradiol 3-( $\beta$ -D-Glucuronide)  
**MF:** C<sub>24</sub>H<sub>31</sub>O<sub>8</sub> • Na  
**FW:** 470.5  
**Purity:**  $\geq$ 95%  
**Stability:**  $\geq$ 2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{\max}$ : 277, 331 nm



### Laboratory Procedures

For long term storage, we suggest that estradiol 3-( $\beta$ -D-glucuronide) (E<sub>2</sub>3G) (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

E<sub>2</sub>3G (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the E<sub>2</sub>3G (sodium salt) in the solvent of choice. E<sub>2</sub>3G (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of E<sub>2</sub>3G (sodium salt) in these solvents is approximately 20 and 10 mg/ml, respectively.

E<sub>2</sub>3G (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, E<sub>2</sub>3G (sodium salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. E<sub>2</sub>3G (sodium salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

E<sub>2</sub>3G is a non-cholestatic regioisomer of the estrogen metabolite, estradiol 17-( $\beta$ -D-glucuronide) (E<sub>2</sub>17G; Item No. 16156).<sup>1-2</sup> It acts as a substrate for multidrug resistance protein 2 (MRP2;  $K_m$  = 122  $\mu$ M), competing with E<sub>2</sub>17G for MRP2-mediated transport ( $IC_{50}$  = 14.2  $\mu$ M).<sup>2-3</sup> E<sub>2</sub>3G has been reported to inhibit E<sub>2</sub>17G transport through rat organic anion-transporting polypeptide 1 with a  $K_i$  value of 9.7  $\mu$ M, but is a low-affinity inhibitor of both MRP4 and MRP7 ( $IC_{50}$ s = ~ 100  $\mu$ M).<sup>2</sup>

### References

- Loe, D.W., Almquist, K.C., Cole, S.P., *et al.* ATP-dependent 17 $\beta$ -estradiol 17-( $\beta$ -D-glucuronide) transport by multidrug resistance protein (MRP). Inhibition by cholestatic steroids. *J. Biol. Chem.* **271**(16), 9683-9689 (1996).
- Gerk, P.M., Li, W., and Vore, M. Estradiol 3-glucuronide is transported by the multidrug resistance-associated protein 2 but does not activate the allosteric site bound by estradiol 17-glucuronide. *Drug Metab. Dispos.* **32**(10), 1139-1145 (2004).
- Gerk, P.M., Li, W., Megaraj, W., *et al.* Human multidrug resistance protein 2 transports the therapeutic bile salt tauroursodeoxycholate. *J. Pharmacol. Exp. Ther.* **320**(2), 893-899 (2007).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/16155](http://www.caymanchem.com/catalog/16155)

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