

Product Information



Estradiol 17-(β -D-Glucuronide) (sodium salt)

Item No. 16156

CAS Registry No.: 15087-02-2

Formal Name: (17 β)-3-hydroxyestra-1,3,5(10)-trien-17-yl β -D-glucopyranosiduronic acid, monosodium salt

Synonyms: E₂17G, β -Estradiol 17-(β -D-Glucuronide), 17 β -Estradiol 17-(β -D-Glucuronide), 17 β -Oestradiol 17-(β -D-Glucuronide)

MF: C₂₄H₃₁O₈ • Na

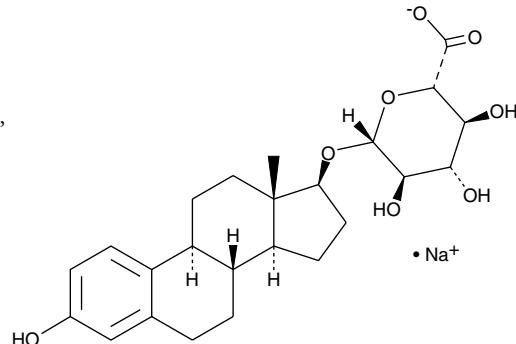
FW: 470.5

Purity: ≥95%

Stability: ≥2 years at -20°C

Supplied as: A crystalline solid

UV/Vis.: λ_{max}: 282 nm



Laboratory Procedures

For long term storage, we suggest that estradiol 17-(β -D-glucuronide) (E₂17G) (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

E₂17G (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the E₂17G (sodium salt) in the solvent of choice. E₂17G (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of E₂17G (sodium salt) in these solvents is approximately 20 and 10 mg/ml, respectively.

E₂17G (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, E₂17G (sodium salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. E₂17G (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.

E₂17G is an estrogen metabolite formed in the liver and subsequently excreted in bile.¹ It acts as a substrate of the multidrug resistance protein 2 (MRP2; K_m = 75 μ M), and through MRP2-mediated transport, functions as a cholestatic agent, decreasing bile flow.¹⁻² In addition to binding to the MRP2 transport site, E₂17G has been shown to bind to an allosteric site that through positive cooperativity activates its own transport *via* MRP2 and the transport of other MRP2 substrates, including the non-cholestatic estrogen metabolite, estradiol 3-(β -D-glucuronide) (E₂3G; Item No. 16155).²⁻³ E₂17G has also been reported to be transported by MDR1, MRP1, MRP3, MRP4, MRP7, ABCG2 (a breast cancer resistance protein transporter), and the rat organic anion-transporting polypeptides 1-4.²

References

1. Loe, D.W., Almquist, K.C., Cole, S.P., *et al.* ATP-dependent 17 β -estradiol 17-(β -D-glucuronide) transport by multidrug resistance protein (MRP). Inhibition by cholestatic steroids. *J. Biol. Chem.* **271**(16), 9683-9689 (1996).
2. 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).
3. Gerk, P.M., Li, W., Megaraj, W., *et al.* Human multidrug resistance protein 2 transports the therapeutic bile salt taurooursodeoxycholate. *J. Pharmacol. Exp. Ther.* **320**(2), 893-899 (2007).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16156

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

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