

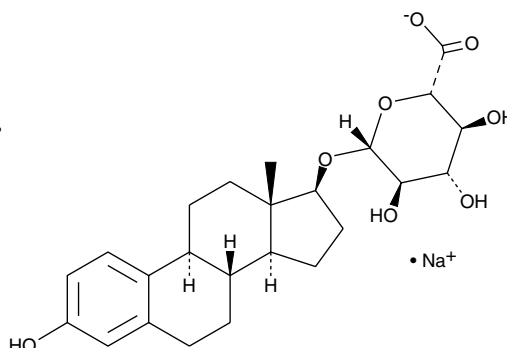
Product Information



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: $\geq 95\%$
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. Gerke, 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. Gerke, 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/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

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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