

PRODUCT INFORMATION



Estradiol 3-sulfate 17 β -Glucuronide (potassium salt)

Item No. 18224

CAS Registry No.: 10392-35-5
Formal Name: (17 β)-3-(sulfooxy)estra-1,3,5(10)-trien-17-yl, β -D-glucopyranosiduronic acid, dipotassium salt

MF: C₂₄H₃₀O₁₁S • 2K

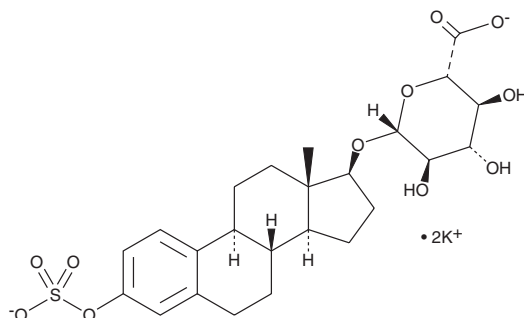
FW: 604.8

Purity: \geq 95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: \geq 4 years



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

Laboratory Procedures

Estradiol 3-sulfate 17 β -glucuronide (potassium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the estradiol 3-sulfate 17 β -glucuronide (potassium salt) in the solvent of choice, which should be purged with an inert gas. Estradiol 3-sulfate 17 β -glucuronide (potassium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of estradiol 3-sulfate 17 β -glucuronide (potassium salt) in these solvents is approximately 5 and 0.5 mg/ml, respectively.

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 estradiol 3-sulfate 17 β -glucuronide (potassium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of estradiol 3-sulfate 17 β -glucuronide (potassium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Estradiol 3-sulfate is a sulfated form of the steroid hormone 17 β -estradiol (Item No. 10006315), and is common in fetal plasma and in the breast tissues of patients with mammary carcinoma.¹⁻³ Sulfated estrogens, including estradiol 3-sulfate, can be converted back to the parent compound by sulfatases.^{3,4} Estradiol 3-sulfate 17 β -glucuronide is a metabolite of estradiol 3-sulfate that has been modified by a UDP-glucuronosyltransferase. Glucuronidation of estrogens enhances their utilization by anion transporters, most commonly leading to excretion in urine and bile.^{3,5}

References

1. Winikor, J., Schlaerth, C., Rabaglino, M.B., *et al.* Complex actions of estradiol-3-sulfate in late gestation fetal brain. *Reprod. Sci.* **18**(7), 654-665 (2011).
2. Pasqualini, J.R., Gelly, C., Nguyen, B.L., *et al.* Importance of estrogen sulfates in breast cancer. *J. Steroid Biochem.* **34**(1-6), 155-163 (1989).
3. Raftogianis, R., Creveling, C., Weinshilboum, R., *et al.* Chapter 6: Estrogen metabolism by conjugation. *J. Natl. Cancer Inst. Monogr.* **27**, 113-124 (2000).
4. Mueller, J.W., Gilligan, L.C., Idkowiak, J., *et al.* The regulation of steroid action by sulfation and desulfation. *Endocr. Rev.* **er20151036**, (2015).
5. 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).

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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