

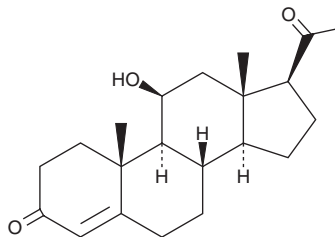
PRODUCT INFORMATION



11 β -Hydroxyprogesterone

Item No. 36031

CAS Registry No.: 600-57-7
Formal Name: 11 β -hydroxy-pregn-4-ene-3,20-dione
Synonyms: 21-Deoxycorticosterone, 11 β -OHP, 11 β -hydroxy Progesterone, NSC 15469, U-1701
MF: C₂₁H₃₀O₃
FW: 330.5
Purity: \geq 98%
Supplied as: A 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

11 β -Hydroxyprogesterone (11 β -OHP) is supplied as a solid. A stock solution may be made by dissolving the 11 β -OHP in the solvent of choice, which should be purged with an inert gas. 11 β -OHP is slightly soluble in acetone, chloroform, and methanol.

Description

11 β -OHP is a metabolite of progesterone (Item No. 15876).¹ It is an agonist of the mineralocorticoid receptor (MR) that induces MR transactivation in a reporter assay (EC₅₀ = 0.05 μ M for COS-7 cells expressing the human receptor).² It increases sodium absorption in mpkCCDc14 murine renal cortical collecting duct cells. 11 β -OHP is an inhibitor of 11 β -hydroxysteroid dehydrogenase type 2 (11 β -HSD2) and 11 β -HSD1 (IC₅₀s = 0.140 and 1 μ M, respectively).³ It increases blood pressure in rats when administered subcutaneously at a rate of 10 μ g/hour.⁴ Serum levels of 11 β -OHP are increased in patients with 21-hydroxylase deficiency, a type of congenital adrenal hyperplasia (CAH), characterized by masculinized genitals in female infants, irregular menses in adult females, and accelerated bone age in adolescent males.⁵

References

1. van Rooyen, D., Gent, R., Barnard, L., *et al.* The in vitro metabolism of 11 β -hydroxyprogesterone and 11-ketoprogesterone to 11-ketodihydrotestosterone in the backdoor pathway. *J. Steroid Biochem. Mol. Biol.* **178**, 203-212 (2018).
2. Rafestin-Oblin, M.-E., Fagart, J., Souque, A., *et al.* 11 β -hydroxyprogesterone acts as a mineralocorticoid agonist in stimulating Na⁺ absorption in mammalian principal cortical collecting duct cells. *Mol. Pharmacol.* **62**(6), 1306-1313 (2002).
3. Souness, G.W., Latif, S.A., Laurenzo, J.L., *et al.* 11 α - and 11 β -hydroxyprogesterone, potent inhibitors of 11 β -hydroxysteroid dehydrogenase (isoforms 1 and 2), confer marked mineralocorticoid activity on corticosterone in the ADX rat. *Endocrinology* **136**(4), 1809-1812 (1995).
4. Souness, G.W. and Morris, D.J. 11 α - and 11 β -hydroxyprogesterone, potent inhibitors of 11 β -hydroxysteroid dehydrogenase, possess hypertensinogenic activity in the rat. *Hypertension* **27**(3 Pt 1), 421-425 (1996).
5. Turcu, A.F., Rege, J., Chomic, R., *et al.* Profiles of 21-carbon steroids in 21-hydroxylase deficiency. *J. Clin. Endocrinol. Metab.* **100**(6), 2283-2290 (2015).

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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