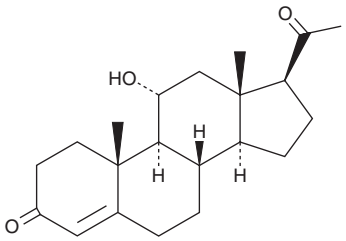
PRODUCT INFORMATION

11α-Hydroxyprogesterone

Item No. 35898

CAS Registry No.:	80-75-1
Formal Name:	11α-hydroxy-pregn-4-ene-3,20-dione
Synonyms:	11α-OHP, NSC 3350, U-0384
MF:	$C_{21}H_{30}O_3$
FW:	330.5
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	4≥ years



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

Laboratory Procedures

11α-Hydroxyprogesterone (11α-OHP) is supplied as a solid. A stock solution may be made by dissolving the 11α-OHP in the solvent of choice, which should be purged with an inert gas. 11α-OHP is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

Description

11α-OHP is an inhibitor of 11β-hydroxysteroid dehydrogenase (IC_{50}s = 0.63 and 0.4 µM for recombinant human 11β-HSD1 and 11β-HSD2, respectively) and a derivative of the endogenous hormone progesterone (Item No. 15876).[1,2] 11α-OHP (10, 100, and 500 µg/animal) reduces urinary sodium excretion in male adrenalectomized rats when administered in combination with the steroid hormone corticosterone (Item No. 16063) but not when administered alone.[1] It potentiates corticosterone-induced increases in urinary potassium excretion in the same model but has no effect on urinary potassium excretion when administered alone. 11α-OHP increases blood pressure in rats when administered subcutaneously at a rate of 10 µg/hour, an effect that can be blocked by adrenalectomy or reduced by co-administration of the mineralocorticoid receptor antagonist RU-28318.[3]It has been used as a precursor in the synthesis of various steroids, including 11β-aminoprogesterone and derivatives of 11β-aminoprogesterone and 5ζ-pregnanolone.[2,4]

References

1. Souness, G.W., Latif, S.A., Laurenzo, J.L., *et al.* 11α- and 11β-hydroxyprogesterone, potent inhibitors of 11β-hydroxysteroid dehydrogenase (isoforms 1 and 2), confer marked mineralocorticoid activity on corticosterone in the ADX rat. *Endocrinology* **136(4),** 1809-1812 (1995).
2. Pandya, K., Dietrich, D., Seibert, J., *et al.* Synthesis of sterically encumbered 11β-aminoprogesterone derivatives and evaluation as 11β-hydroxysteroid dehydrogenase inhibitors and mineralocorticoid receptor antagonists. *Bioorg. Med. Chem.* **21(21),** 6274-6281 (2013).
3. Souness, G.W., and Morris, D.J. 11α- and 11β-hydroxyprogesterone, potent inhibitors of 11β-hydroxysteroid dehydrogenase, possess hypertensinogenic activity in the rat. *Hypertension* **27(3 Pt 1),** 421-425 (1996).
4. Slavíková, B., Bujons, J., Matyáš, L., *et al.* Allopregnanolone and pregnanolone analogues modified in the C ring: Synthesis and activity. *J. Med. Chem.* **56(6),** 2323-2336 (2013).

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