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Zuschläge

- Mindermengenzuschlag
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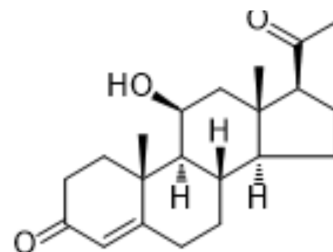
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11beta-Hydroxyprogesterone

Cat. No.:	HY-N2337
CAS No.:	600-57-7
Molecular Formula:	C ₂₁ H ₃₀ O ₃
Molecular Weight:	330.47
Target:	11β-HSD
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (75.65 mM; Need ultrasonic)					
	Preparing Stock Solutions	<div><div>Solvent</div><div>Concentration</div></div>	Mass	1 mg	5 mg	10 mg
		1 mM		3.0260 mL	15.1301 mL	30.2601 mL
		5 mM		0.6052 mL	3.0260 mL	6.0520 mL
		10 mM		0.3026 mL	1.5130 mL	3.0260 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (7.57 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (7.57 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (7.57 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	11beta-Hydroxyprogesterone is a potent inhibitors of 11β-Hydroxysteroid dehydrogenase; also activates human mineralocorticoid receptor in COS-7 cells with an ED ₅₀ of 10 nM.
IC ₅₀ & Target	Human Endogenous Metabolite
In Vitro	11OHP displays agonist mineralocorticoid activity. 11β-hydroxyprogesterone activates the transiently expressed hMR in COS-7 cells in a dose-dependent manner with an ED ₅₀ of 10 nM and stimulates Ams _{sc} in mpkCCD _{cl4} cells. Docking 11β-hydroxyprogesterone within the hMR-ligand-binding domain homology model reveals that the agonist activity of 11OHP is caused by contacts between its 11β-hydroxyl group and Asn770 ^[1] .

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

11 β -hydroxyprogesterone causes a significant elevation in blood pressure within 3 days, an effect that persisted throughout the 14-day infusion. 11 β -hydroxyprogesterone is potentially hypertensinogenic in the rat and that this activity depends on an intact adrenal and at least in part on the activation of mineralocorticoid receptors^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[2]

Rats: 11 α - and 11 β -OHP are dissolved in propylene glycol (100%) and infused at 3 and 10 μ g/h, respectively, for 14 days. Control rats received vehicle only. BP is measured the day before pumps were implanted and on days 3, 7, 10, and 14 after implantation. Indirect systolic BPs are measured with a modified tail-cuff method^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Metab. 2024 Oct 4;S1550-4131(24)00371-1.
- Nat Commun. 2024 Oct 8;15(1):8708.
- Nat Chem Biol. 2022 Aug 18.
- Proc Natl Acad Sci U S A. 2022 Apr 12;119(15):e2117004119.

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REFERENCES

[1]. Rafestin-Oblin ME, et al. 11beta-hydroxyprogesterone acts as a mineralocorticoid agonist in stimulating Na⁺ absorption in mammalian principal cortical collecting duct cells. Mol Pharmacol. 2002 Dec;62(6):1306-13.

[2]. Souness GW, et al. 11 alpha- and 11 beta-hydroxyprogesterone, potent inhibitors of 11 beta-hydroxysteroid dehydrogenase, possess hypertensinogenic activity in the rat. Hypertension. 1996 Mar;27(3 Pt 1):421-5.

Caution: Product has not been fully validated for medical applications. For research use only.

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