

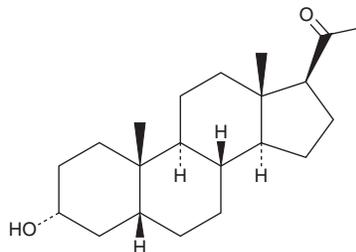
PRODUCT INFORMATION



Pregnanolone

Item No. 42751

CAS Registry No.: 128-20-1
Formal Name: (3 α ,5 β)-3-hydroxy-pregnan-20-one
Synonyms: Eltanolone, NSC 82867, 3 α ,5 β -P, 5 β -Pregnan-3 α -ol-20-one, SKF 6455, 3 α ,5 β -Tetrahydroprogesterone, U-2340
MF: C₂₁H₃₄O₂
FW: 318.5
Purity: \geq 95%
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

Pregnanolone is supplied as a solid. A stock solution may be made by dissolving the pregnanolone in the solvent of choice, which should be purged with an inert gas. Pregnanolone is soluble (\geq 10 mg/ml) in ethanol and DMSO.

Description

Pregnanolone is a neurosteroid and an active metabolite of pregnenolone (Item No. 19864).¹⁻³ It is formed from pregnenolone via the intermediates progesterone (Item No. 15876) and 5 β -dihydroprogesterone (Item No. 34644).¹ Pregnanolone enhances the binding of flunitrazepam to GABA_A receptors in rat brain homogenate (EC₅₀ = 237 nM) and inhibits currents induced by GABA in *Xenopus* oocytes expressing ρ_1 subunit-containing GABA_C receptors (IC₅₀ = 550 nM).^{2,3} It protects against seizures induced by pentylenetetrazole (PTZ; Item No. 18682) in a rat model of perimenstrual catamenial epilepsy (ED₅₀ = 2.16 mg/kg).⁴ Pregnanolone (20 mg/kg) increases the number of entries into and percentage of time spent in the open arms of the elevated plus maze in mice, indicating anxiolytic activity.⁵ It induces anesthesia in rats.⁶

References

- Hill, M., Cibula, D., Havlíková, H., *et al.* Circulating levels of pregnanolone isomers during the third trimester of human pregnancy. *J. Steroid Biochem. Mol. Biol.* **105**(1-5), 166-175 (2007).
- Morris, K.D., Moorefield, C.N., and Amin, J. Differential modulation of the γ -aminobutyric acid type C receptor by neuroactive steroids. *Mol. Pharmacol.* **56**(4), 752-759 (1999).
- Prince, R.J. and Simmonds, M.A. 5 β -pregnan-3 β -ol-20-one, a specific antagonist at the neurosteroid site of the GABA_A receptor-complex. *Neurosci. Lett.* **135**(2), 273-275 (1992).
- Reddy, D.S. and Rogawski, M.A. Enhanced anticonvulsant activity of neuroactive steroids in a rat model of catamenial epilepsy. *Epilepsia* **42**(3), 337-344 (2001).
- Rodgers, R.J. and Johnson, N.J. Behaviorally selective effects of neuroactive steroids on plus-maze anxiety in mice. *Pharmacol. Biochem. Behav.* **59**(1), 221-232 (1998).
- Zhu, D., Wang, M.D., Bäckström, T., *et al.* Evaluation and comparison of the pharmacokinetic and pharmacodynamic properties of allopregnanolone and pregnanolone at induction of anaesthesia in the male rat. *Br. J. Anaesth.* **86**(3), 403-412 (2001).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/07/2025

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM