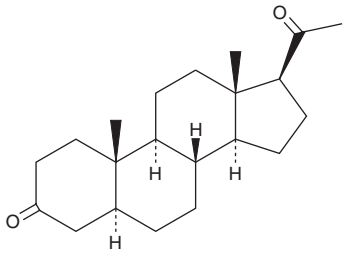
PRODUCT INFORMATION

5α-Dihydroprogesterone

Item No. 31505

CAS Registry No.:	566-65-4
Formal Name:	(5α)-pregnane-3,20-dione
Synonyms:	5α-DHP, NSC 18319, 5α-Pregnanedione
MF:	$C_{21}H_{32}O_2$
FW:	316.5
Purity:	≥95%
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

5α-Dihydroprogesterone (5α-DHP) is supplied as a solid. A stock solution may be made by dissolving the 5α-DHP in the solvent of choice, which should be purged with an inert gas. 5α-DHP is soluble in the organic solvent chloroform at a concentration of approximately 30 mg/ml.

Description

5α-DHP is a progesterone receptor agonist and metabolite of progesterone (Item No. 15876).[1] It is formed from progesterone by 5α-reductase.[2] It induces gene expression mediated by the progesterone receptor (PR) in reporter assays using HepG2 cells expressing equine PR or human PR (EC_{50}s = 14 and 23.1 nM, respectively).[1] 5α-DHP (0.7 mg/kg) maintains equine pregnancy in the absence of luteal progesterone. It increases proliferation of C4HD murine mammary cells when used at a concentration of 1 µM and induces tumor formation in a C4HD mouse model of tumorigenesis in a dose-dependent manner.[3] 5α-DHP levels increase locally following spinal cord injury or traumatic brain injury in rats and ischemic brain injury in mice.[2]

References

1. Scholtz, E.L., Krishnan, S., Ball, B.A., *et al.* Pregnancy without progesterone in horses defines a second endogenous biopotent progesterone receptor agonist, 5α-dihydroprogesterone. *Proc. Natl. Acad. Sci. U.S.A.* **111(9)**, 3365-3370 (2014).
2. Guennoun, R., Labombarda, F., Gonzalez Deniselle, M.C., *et al.* Progesterone and allopregnanolone in the central nervous system: Response to injury and implication for neuroprotection. *J. Steroid Biochem. Mol. Biol.* **146**, 48-61 (2015).
3. Wiebe, J.P., Rivas, M.A., Mercogliano, M.F., *et al.* Progesterone-induced stimulation of mammary tumorigenesis is due to the progesterone metabolite, 5α-dihydroprogesterone (5αP) and can be suppressed by the 5α-reductase inhibitor, finasteride. *J. Steroid Biochem. Mol. Biol.* **149**, 27-34 (2015).

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