

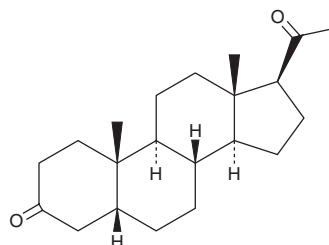
# PRODUCT INFORMATION



## 5 $\beta$ -Dihydroprogesterone

Item No. 34644

|                   |   |
|-------------------|---|
| CAS Registry No.: | 128-23-4  |
| Formal Name:      | (5 $\beta$ )-pregnane-3,20-dione                    |
| Synonyms:         | 5 $\beta$ -DHP, NSC 82868, 5 $\beta$ -Pregnanedione |
| MF:               | C <sub>21</sub> H <sub>32</sub> O <sub>2</sub>      |
| 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

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

### Description

5 $\beta$ -DHP is a progesterone receptor agonist and metabolite of progesterone (Item No. 15876).<sup>1,2</sup> It is formed from progesterone by 5 $\beta$ -reductase.<sup>2</sup> 5 $\beta$ -DHP inhibits spontaneous contractions in isolated rat uterus when used at a concentration of 10  $\mu$ g/ml, an effect that can be blocked by the progesterone receptor antagonist RU486 (mifepristone; Item No. 10006317) but not the GABA<sub>A</sub> receptor antagonist picrotoxin (Item No. 20771).<sup>1</sup> It is a negative modulator of homooligomeric  $\rho$ 1 subunit-containing GABA<sub>A</sub> receptors, inhibiting GABA-induced currents in *X. laevis* oocytes expressing these receptors (IC<sub>50</sub> = 5.02  $\mu$ M).<sup>3</sup> Plasma levels of 5 $\beta$ -DHP decrease at the onset of spontaneous human labor.<sup>4</sup>

### References

1. Putnam, C.D., Brann, D.W., Kolbeck, R.C., *et al.* Inhibition of uterine contractility by progesterone and progesterone metabolites: Mediation by progesterone and gamma amino butyric acid<sub>A</sub> receptor systems. *Biol. Reprod.* **45(2)**, 266-272 (1991).
2. Bumke-Vogt, C., Bähr, V., Diederich, S., *et al.* Expression of the progesterone receptor and progesterone-metabolising enzymes in the female and male human kidney. *J. Endocrinol.* **175(2)**, 349-364 (2002).
3. Morris, K.D., Moorefield, C.N., and Amin, J. Differential modulation of the  $\gamma$ -aminobutyric acid type C receptor by neuroactive steroids. *Mol. Pharmacol.* **56(4)**, 752-759 (1999).
4. Sheehan, P.M., Rice, G.E., Moses, E.K., *et al.* 5 $\beta$ -dihydroprogesterone and steroid 5 $\beta$ -reductase decrease in association with human parturition at term. *Mol. Hum. Reprod.* **11(7)**, 495-501 (2005).

#### 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, 11/01/2022

#### 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