

# PRODUCT INFORMATION



## Pregnenolone

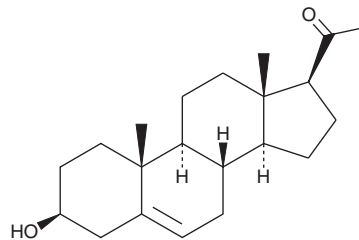
Item No. 19864

**CAS Registry No.:** 145-13-1  
**Formal Name:** 3 $\beta$ -hydroxy-pregn-5-en-20-one  
**Synonyms:** NSC 1616, NSC 18158,  
3 $\beta$ -hydroxy-5-Pregnen-20-one,  
 $\Delta^5$ -Pregnenolone

**MF:** C<sub>21</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 316.5  
**Purity:**  $\geq$ 98%

**Supplied as:** A crystalline solid  
**Storage:** Room temperature

**Stability:** As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



### Laboratory Procedures

Pregnenolone is supplied as a crystalline solid. A stock solution may be made by dissolving the pregnenolone in the solvent of choice. Pregnenolone is soluble in organic solvents such as acetonitrile, ethanol, and methanol, which should be purged with an inert gas. The solubility of pregnenolone in these solvents is approximately 1 mg/ml.

Pregnenolone is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Pregnenolone is a natural steroid hormone that serves as a precursor for a wide range of steroids, including mineralocorticoids, glucocorticoids, androgens, and estrogens.<sup>1</sup> Pregnenolone sulfate modulates NMDA receptor responses to exogenously applied glutamate and stimulates transient receptor potential melastatin 3 (TRPM3).<sup>2-4</sup>

### References

1. Akhtar, M. K., Kelly, S. L. and Kaderbhai, M. A. Cytochrome b5 modulation of 17 $\alpha$  hydroxylase and 17-20 lyase (CYP17) activities in steroidogenesis. *J. Endocrinol.* **187(2)**, 267-274 (2005).
2. Sedláček, M., Kořínek, M., Petrovič, M., *et al.* Neurosteroid modulation of ionotropic glutamate receptors and excitatory synaptic transmission. *Physiol. Res.* **57(Suppl 3)**, S49-S57 (2008).
3. Smith, C. C., Gibbs, T. T., and Farb, D. H. Pregnenolone sulfate as a modulator of synaptic plasticity. *Psychopharmacology (Berl)* **231(17)**, (2014).
4. Thiel, G., Müller, I., and Rössler, O. G. Signal transduction via TRPM3 channels in pancreatic  $\beta$ -cells. *J. Mol. Endocrinol.* **50(3)**, R75-R83 (2013).

#### 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.

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