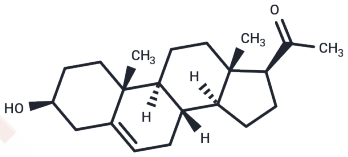
Data Sheet (Cat.No.T0851)

TargetMol

Pregnenolone

Chemical Properties



CAS No. : 145-13-1

Formula: C21H32O2

Molecular Weight: 316.48

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Pregnenolone (Arthenolone) is an endogenous steroid hormone synthesized from cholesterol, used in the treatment of Alzheimer's disease.
Targets(IC50)	Cannabinoid Receptor,Endogenous Metabolite,AChR,Autophagy,TRP/TRPV Channel
In vitro	Pregnenolone induces a large, dose-related increase of both the rate and extent of MAP2-induced tubulin assembly, whereas progesterone, inactive per se, counteracted the stimulatory effect of Pregnenolone. Pregnenolone-increased assembly of microtubules produces a completely normal structure. [1] Pregnenolone preserves microtubule abundance and promotes cell movement during epiboly. [2] Pregnenolone results in dramatic reduction in GR nuclear localization in mouse hippocampal cell line (HT-22). Pregnenolone has neuroprotective effects against both glutamate and amyloid beta protein neuropathology. [3]
In vivo	Pregnenolone sustains its proliferative activity in vivo and stimulates the growth of LNCaP-tumor xenografts in intact male SCID mice as well as in castrated animals. Pregnenolone is shown to activate transcription through the LNCaP androgen receptor (AR), but not the wild-type AR. [4] Pregnenolone results in a significant decrease in the accumulation of astrocytes in the proximity of the wound and in a decreased bromodeoxyuridine incorporation in reactive astrocytes of rats. [5] Pregnenolone administration results in elevations in downstream neurosteroids such as allopregnanolone, a molecule with neuroprotective effects that also increases neurogenesis, decreases apoptosis and inflammation, modulates the hypothalamic-pituitary-adrenal axis, and markedly increases GABA(A) receptor responses. Pregnenolone administration elevates pregnenolone sulfate, a neurosteroid that positively modulates NMDA receptors. [6]

Solubility Information

Solubility	Ethanol: 21 mg/mL (66.35 mM),Sonication is recommended. DMSO: 15.62 mg/mL (49.36 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1598 mL	15.7988 mL	31.5976 mL
5 mM	0.632 mL	3.1598 mL	6.3195 mL
10 mM	0.316 mL	1.5799 mL	3.1598 mL
50 mM	0.0632 mL	0.316 mL	0.632 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Murakami K, et al. Proc Natl Acad Sci U S A, 2000, 97(7), 3579-3584.
Hsu HJ, et al. Nature,2006, 439(7075), 480-483.
Gursoy E, et al. Neurochem Res,2001, 26(1), 15-21.
Grigoryev DN, et al. J Steroid Biochem Mol Biol, 2000, 75(1), 1-10.
García-Estrada J, et al. Int J Dev Neurosci. 1999 Apr;17(2):145-51.