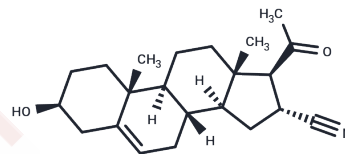


## Pregnenolone Carbonitrile

## Chemical Properties

CAS No. :	1434-54-4
Formula:	C <sub>22</sub> H <sub>31</sub> NO <sub>2</sub>
Molecular Weight:	341.49
Storage:	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 Carbonitrile (5-Pregnen-3β-ol-20-one-16α-carbonitrile) is an activator of rodent-PXR and induces the expression of CYP3A.
Targets(IC50)	Cytochromes P450
In vitro	Pregnenolone Carbonitrile is hepatoprotective by increasing resistance to subsequent stressful insults[4].
In vivo	In WT mice, Pregnenolone Carbonitrile (40 mg/kg/day; i.p.) induces the expression of CYP3A11 and CYP2B10 at the mRNA, protein, and enzymatic levels[2]. In adult female Sprague-Dawley rats, Pregnenolone Carbonitrile (100 mg/kg; i.p.) induces the expression of CYP3A mRNA[3]. In male Sprague-Dawley rats, Pregnenolone Carbonitrile (35 mg/kg; gavage) increase in Pgp expression[4].

## Solubility Information

Solubility	DMSO: 30 mg/mL (87.85 mM), Sonication and heating to 60°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.9283 mL	14.6417 mL	29.2834 mL
5 mM	0.5857 mL	2.9283 mL	5.8567 mL
10 mM	0.2928 mL	1.4642 mL	2.9283 mL
50 mM	0.0586 mL	0.2928 mL	0.5857 mL

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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

Carylyn J Marek, et al. Pregnenolone-16alpha-carbonitrile inhibits rodent liver fibrogenesis via PXR (pregnane X receptor)-dependent and PXR-independent mechanisms. *Biochem J.* 2005 May 1;387(Pt 3):601-8.

Yang Xie, et al. Activation of Pregnane X Receptor Sensitizes Mice to Hemorrhagic Shock-Induced Liver Injury. *Hepatology.* 2019 Sep;70(3):995-1010.

Simon Lowes, et al. The Effects of Pregnenolone 16 $\alpha$ -Carbonitrile Dosing on Digoxin Pharmacokinetics and Intestinal Absorption in the Rat. *Pharmaceutics.* 2010 Mar 15;2(1):61-77.

Jeffrey Guzelian, et al. Identification of genes controlled by the pregnane X receptor by microarray analysis of mRNAs from pregnenolone 16alpha-carbonitrile-treated rats. *Toxicol Sci.* 2006 Dec;94(2):379-87.

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