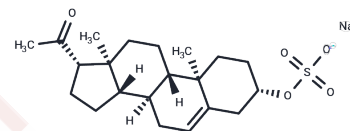


## Pregnenolone monosulfate sodium

### Chemical Properties

CAS No. :	1852-38-6
Formula:	C <sub>21</sub> H <sub>31</sub> NaO <sub>5</sub> S
Molecular Weight:	418.52
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 monosulfate sodium salt is the sodium salt form of Pregnenolone monosulfate. Pregnenolone monosulfate is an endogenous neurosteroid, enhances NMDA receptor-mediated synaptic activity and intracellular Ca <sup>2+</sup> concentrations, activates CREB phosphorylation, activates TRPM3 channels, and may inhibit GABA A receptors.
Targets(IC50)	Cannabinoid Receptor, Epigenetic Reader Domain, GABA Receptor, Endogenous Metabolite, NMDAR, Autophagy, TRP/TRPV Channel
In vitro	Pregnenolone monosulfate sodium does not alter agonist binding, but only agonist efficacy. Pregnenolone monosulfate sodium may act as a signal-specific negative allosteric modulator that occupies a site distinct from that occupied by the orthosteric ligand. When slices were pretreated with 100 nM Pregnenolone monosulfate sodium, the effects of THC were significantly attenuated (15.1 ± 1.8% inhibition). These effects may be due to Pregnenolone monosulfate sodium's presynaptic actions. Thus, Pregnenolone monosulfate sodium prevented the THC-induced increase in paired-pulse ratio but did not alter the amplitude or decay time of miniature EPSCs. [1]
In vivo	Pregnenolone monosulfate sodium (2, 4 mg/kg) injected before each dose reduced WIN 55,212-2 intake and lowered breakpoints in a progressive ratio schedule. Pregnenolone monosulfate sodium (2-6 mg/kg) blocked THC-induced food intake in Wistar rats and C57BL/6N mice and attenuated THC-induced memory impairment in mice, but it did not modify these behaviors by itself [1].

### Solubility Information

Solubility	DMSO: 80 mg/mL (191.15 mM), Sonication is recommended. H <sub>2</sub> O: 2 mg/mL (4.78 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 3.3 mg/mL (7.88 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.3894 mL	11.9469 mL	23.8937 mL
5 mM	0.4779 mL	2.3894 mL	4.7787 mL
10 mM	0.2389 mL	1.1947 mL	2.3894 mL
50 mM	0.0478 mL	0.2389 mL	0.4779 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

Vallée M, et al. Pregnenolone can protect the brain from cannabis intoxication. *Science*. 2014 Jan 3;343(6166):94-8.

Ducharme N, et al. Brain distribution and behavioral effects of progesterone and pregnenolone after intranasal or intravenous administration. *Eur J Pharmacol*. 2010 Sep 1;641(2-3):128-34.

Tarkhan AH, et al. Comparing metabolic profiles between female endurance athletes and non-athletes reveals differences in androgen and corticosteroid levels. *J Steroid Biochem Mol Biol*. 2022 May;219:106081.

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