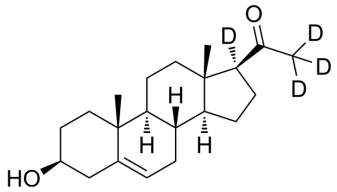
Pregnenolone-d_4-1

Cat. No.:	HY-B0151S2
CAS No.:	61574-54-7
Molecular Formula:	$C_{21}H_{28}D_4O_2$
Molecular Weight:	320.5
Target:	TRP Channel; Autophagy; Cannabinoid Receptor; Endogenous Metabolite
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Autophagy; GPCR/G Protein; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 31.25 mg/mL (97.50 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1201 mL	15.6006 mL	31.2013 mL
	5 mM	0.6240 mL	3.1201 mL	6.2402 mL
	10 mM	0.3120 mL	1.5601 mL	3.1201 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Pregnenolone-d_4-1 is the deuterium labeled Pregnenolone. Pregnenolone (3β-Hydroxy-5-pregnen-20-one) is a powerful neurosteroid, the main precursor of various steroid hormones including steroid ketones. Pregnenolone acts as a signaling-specific inhibitor of cannabinoid CB1 receptor, inhibits the effects of tetrahydrocannabinol (THC) that are mediated by the CB1 receptors. Pregnenolone can protect the brain from cannabis intoxication[1][2]. Pregnenolone is also a TRPM3 channel activator, and also can weakly activate TRPM1 channels[3].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

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

[3]. Alan Shiels. TRPM3_miR-204: a complex locus for eye development and disease. Hum Genomics. 2020 Feb 18;14(1):7.

[4]. 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.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA