Data Sheet (Cat.No.T73658)

TargetMol

Orexin A (human, rat, mouse) acetate

Chemical Properties

CAS No. :

Formula: C154H247N47O46S4

Molecular Weight: 3621.15

Storage: Keep away from moisture
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	Orexin A (human, rat, mouse) acetate (Hypocretin-1) is an excitatory neuropeptide with analgesic properties. It activates Orexin-1 (OX1R) and Orexin-2 (OX2R) receptors, used for studying neurodegenerative diseases.
Targets(IC50)	OX Receptor
In vitro	Orexin A (human, rat, mouse) acetate (0.1, 1, 10, 100 nM, 24h) increased the expression of BDNF in SH-SY5Y human dopaminergic neuroblastoma cells. [1] Orexin A (human, rat, mouse) acetate (5μM) therapy alleviated the decrease in the number of MC3T3-E1 cells and OCN expression induced by chronic intermittent hypoxia (CIH) by combining with OX1R. [2]
In vivo	Orexin A (human, rat, mouse) acetate(300 ng/ mouse, injected into the brain) significantly improved spatial learning and memory impairment in MPTP-induced Parkinson's disease mouse models. [1] Orexin A (human, rat, mouse) acetate treatment improved bone formation in CIH mice. [2]

Solubility Information

Solubility	H2O: 40 mg/mL (11.05 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.2762 mL	1.3808 mL	2.7616 mL
5 mM	0.0552 mL	0.2762 mL	0.5523 mL
10 mM	0.0276 mL	0.1381 mL	0.2762 mL
50 mM	0.0055 mL	0.0276 mL	0.0552 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

Liu MF, et al. Orexin-A Exerts Neuroprotective Effects via OX1R in Parkinson's Disease. Front Neurosci. 2018 Nov 15; 12:835.

Gu H, et al. Orexin-A Reverse Bone Mass Loss Induced by Chronic Intermittent Hypoxia Through OX1R-Nrf2/HIF-1α Pathway. Drug Des Devel Ther. 2022 Jul 5;16:2145-2160.