

6PPD-Q

Chemical Properties

CAS No. : 2754428-18-5

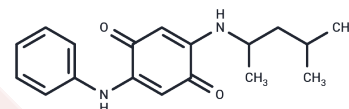
Formula: C18H22N2O2

Molecular Weight: 298.38

Storage: Keep away from direct sunlight, 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	6PPD-Q (6PPD-Quinone) is an environmental pollutant that can target CNR2, CNR1, AA2AR, LCAT and TRPA1. Among them, CNR2 has the highest binding affinity and may act as a CNR2 receptor agonist to activate cannabinoid receptors. 6PPD-Q can damage the sperm quality and induce the impairment of male reproductive ability in mice. 6PPD-Q can induce intestinal inflammation and barrier damage by disrupting mitochondrial function, reducing neuronal glycolytic metabolites and TCA cycle intermediates, and exacerbating α -synuclein (α -syn) aggregation.
Targets(IC50)	Endogenous Metabolite
In vitro	METHODS: Mouse dopaminergic neurons were treated with 6PPD-Q (10 nM, 100 nM) for 48 hours to detect cell growth inhibition. RESULTS: R6PPD-Q did not exhibit significant cytotoxicity. [1] METHODS: Mouse dopaminergic neurons were treated with 6PPD-Q (10 nM, 100 nM) for 7 days, and target protein expression was detected by Western Blot. RESULTS: R6PPD-Q significantly increased Triton X-100-insoluble α -synuclein (α -syn) protein levels. [1]
In vivo	METHODS: To study the effect of 6PPD-Q on intestinal injury, 6PPD-Q (0.1, 1, 10, 100 μ g/kg) was orally administered to ICR mice once daily for 21 days. RESULTS: 6PPD-Q caused intestinal injury in ICR mice, which was manifested as enhanced inflammatory response in jejunum and ileum and impaired intestinal barrier integrity. [2]

Solubility Information

Solubility	DMSO: 10 mg/mL (33.51 mM), Sonication and heating are recommended. H2O: < 1 mg/mL (insoluble or slightly soluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3514 mL	16.7572 mL	33.5143 mL
5 mM	0.6703 mL	3.3514 mL	6.7029 mL
10 mM	0.3351 mL	1.6757 mL	3.3514 mL
50 mM	0.067 mL	0.3351 mL	0.6703 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

Fang J, et al. 6PPD-quinone exposure induces neuronal mitochondrial dysfunction to exacerbate Lewy neurites formation induced by α -synuclein preformed fibrils seeding. *J Hazard Mater.* 2024 Mar 5;465:133312.

Yang Y, et al. Environmentally realistic dose of tire-derived metabolite 6PPD-Q exposure causes intestinal jejunum and ileum damage in mice via cannabinoid receptor-activated inflammation. *Sci Total Environ.* 2024 Mar 25;918:170679.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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