

C004019

## Chemical Properties

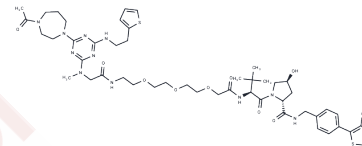
CAS No. : 2417159-57-8

Formula: C49H70N12O9S2

Molecular Weight: 1035.29

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	C004019 belongs to PROTACs and is a tau protein-targeted degrader (via recruitment of VHL E3 ligase) with blood-brain barrier permeability and selective tau degradation capability. This compound significantly reduces tau levels and improves cognitive function, and is used in research on Alzheimer's disease and related tauopathies.
Targets(IC50)	Microtubule Associated,PROTACs
In vitro	<b>Methods:</b> HEK293 cells stably expressing full-length human tau protein (HEK293-hTau) and SH-SY5Y cells were treated with C004019 for 24 h, and cell viability and tau protein expression levels were detected, respectively. <b>Results:</b> Within the concentration range of 0.01-100 µM, C004019 had no significant effect on HEK293-hTau cell viability; at concentrations of 0.01-20 µM, C004019 inhibited total tau and phosphorylated tau protein expression.[1]
In vivo	<b>Methods:</b> To evaluate the clearance of brain tau protein and effects on cognitive function by C004019, different administration Methods were employed in wild-type, 3xTg-AD, and hTau mouse models: single intracerebroventricular injection of C004019 (5 µL, 200 µM); single subcutaneous injection (3-15 mg/kg); and long-term subcutaneous injection (3 mg/kg, once every 6 days for a total of 5 times), with detection of brain tau protein levels, cognitive function, and synaptic function changes. <b>Results:</b> Intracerebroventricular administration of C004019 reduced brain tau protein levels in wild-type and 3xTg-AD mice; single subcutaneous injection effectively cleared brain tau protein in wild-type mice; long-term subcutaneous injection promoted brain tau protein clearance in hTau and 3xTg-AD mice and improved their cognitive and synaptic function.[1]

## Solubility Information

Solubility	DMSO: 255 mg/mL (246.31 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	0.9659 mL	4.8296 mL	9.6591 mL
5 mM	0.1932 mL	0.9659 mL	1.9318 mL
10 mM	0.0966 mL	0.483 mL	0.9659 mL
50 mM	0.0193 mL	0.0966 mL	0.1932 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

Wang W, et al. A novel small-molecule PROTAC selectively promotes tau clearance to improve cognitive functions in Alzheimer-like models. *Theranostics*. 2021 Mar 11;11(11):5279-5295.

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