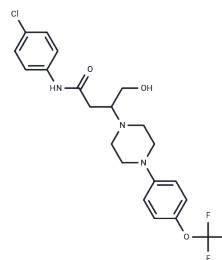


VBIT-4

Chemical Properties

CAS No. :	2086257-77-2
Formula:	C ₂₁ H ₂₃ ClF ₃ N ₃ O ₃
Molecular Weight:	457.87
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	VBIT-4 is a voltage-dependent anion channel 1 (VDAC1) oligomerization inhibitor (K _d : 17 μM). VBIT-4 can be used for therapeutic purposes in apoptosis-associated disorders (such as neurodegenerative and cardiovascular diseases).
Targets(IC ₅₀)	VDAC
In vitro	VBIT-4 targets the mitochondrial protein VDAC1, inhibits apoptosis and defends against mitochondrial dysfunction. VBIT-4 (0.1-10 μM) inhibits VDAC1 oligomerization, Cyto c release from mitochondria and apoptosis (in HEK-293 cells , IC ₅₀ s of 1.9±0.08 μM, 1.8±0.24 μM, and 2.9±0.12 μM, respectively).VBIT-4 offer a therapeutic strategy for treating different diseases associated with enhanced apoptosis and point to VDAC1 as a promising target for therapeutic intervention.
In vivo	METHODS: To test the effect on Alzheimer's disease, VBIT-4 (25 mg/kg) was injected intraperitoneally into APP/PS1 mice once daily for four weeks. RESULTS: VDAC1 was significantly up-regulated in APP/PS1 mice and decreased after VBIT-4 treatment; GPX4 expression was decreased in APP/PS1 mice and restored by VBIT-4 treatment; MWM test showed that APP/PS1 mice had a longer latency to find the plateau; VBIT-4 treatment significantly decreased the latency to find the plateau in APP/PS1 mice. VBIT-4 treatment significantly reduced the latency of platform finding in APP/PS1 mice. [3]

Solubility Information

Solubility	DMSO: 45 mg/mL (98.28 mM),Sonication is recommended. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4.5 mg/mL (9.83 mM),Solution. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.184 mL	10.9201 mL	21.8403 mL
5 mM	0.4368 mL	2.184 mL	4.3681 mL
10 mM	0.2184 mL	1.092 mL	2.184 mL
50 mM	0.0437 mL	0.2184 mL	0.4368 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.

Reference

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