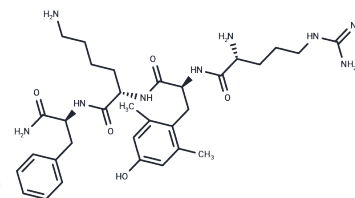


Elamipretide

Chemical Properties

CAS No. :	736992-21-5
Formula:	C32H49N9O5
Molecular Weight:	639.79
Appearance:	no data available
Storage:	store at low temperature, keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Elamipretide (MTP-131) is a mitochondria-targeted antioxidant tetrapeptide (D-Arg-dimethylTyr-Lys-Phe-NH ₂) that reduces toxic reactive oxygen species (ROS) production and stabilizes cardiolipin, with blood-brain-barrier permeability. Elamipretide is a potential therapeutic agent in the rare disease of Barnes syndrome.
Targets(IC50)	Others
In vitro	METHODS: Rat insulinoma cells, INS1, were treated with Elamipretide (1-10 μM) for 20 h. Cellular mitochondria were detected by Immunofluorescence. RESULTS: Elamipretide prevented mitochondrial breaks induced by nutrient overload, and at the same time had no effect on the mitochondrial morphology of healthy INS1 cells. [1] METHODS: Immortalized human trabecular meshwork cells iHTM and glaucomatous human trabecular cell line GTM3 cells were pretreated with Elamipretide (0.01-1 μM) for 1 h, followed by incubation with H₂O₂ (200 μM) for 24 h, and LDH release was detected by calorimetric assay. RESULTS: Incubation with H₂O₂ resulted in a significant increase in LDH release in iHTM and GTM3 cells, and pretreatment with MTP-131 dose-dependently inhibited LDH release. [2]
In vivo	METHODS: To investigate the effects on cognitive sequelae of inflammation and oxidative stress, Elamipretide (5 mg/kg) was administered intraperitoneally to LPS-injected C57BL/6 mice once daily for three days. RESULTS: LPS-induced memory impairment could be attenuated by the mitochondria-targeted antioxidant Elamipretide. [3] METHODS: To test the phenotypic effects on aging in mice, Elamipretide (3 mg/kg) was injected subcutaneously into C57BL/6 mice five times a week for ten months. RESULTS: Elamipretide enhanced healthy aging and cardiac function in both male and female mice, although the specific effects on function varied by sex. In females, the treatment improved cognition and maintained body composition, while in males, rotisserie performance was preserved. [4]

Solubility Information

A DRUG SCREENING EXPERT

Solubility	H2O: 100 mg/mL (156.30 mM) 5% DMSO+95% Saline: 1.45 mg/mL (2.27 mM) DMSO: 29 mg/mL (45.33 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.563 mL	7.8151 mL	15.6301 mL
5 mM	0.3126 mL	1.563 mL	3.126 mL
10 mM	0.1563 mL	0.7815 mL	1.563 mL
50 mM	0.0313 mL	0.1563 mL	0.3126 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

Suo M, Qi Y, Liu L, et al. SS31 Alleviates Pressure Overload-Induced Heart Failure Caused by Sirt3-Mediated Mitochondrial Fusion. *Frontiers in Cardiovascular Medicine*. 2022.9

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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