

MTP 131 acetate

Chemical Properties

CAS No. : 1334953-95-5

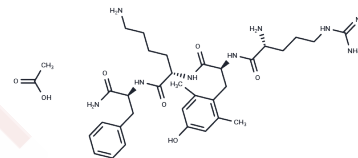
Formula: C34H53N9O7

Molecular Weight: 699.84

Keep away from moisture

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	MTP 131 (acetate) is a small mitochondrially-targeted tetrapeptide.
Targets(IC50)	Others
In vitro	Pretreatment of cells with MTP 131 (acetate) inhibited H ₂ O ₂ -induced cytotoxicity and reduced LDH release in a dose-dependent manner, compared with cells treated with H ₂ O ₂ alone. Mitochondrial depolarization and ROS generation were also prevented by MTP 131 (acetate) pretreatment. In addition, MTP 131 (acetate) pretreatment inhibited cytochrome c release from mitochondria to cytoplasm, and significantly reduced apoptosis in RGC-5 cells, compared with cells treated with H ₂ O ₂ alone[1].
In vivo	18-week-old db/db mice have reduced renal and cardiac superoxide levels, as measured by dihydroethidium oxidation, and increased levels of albuminuria, mesangial matrix accumulation, and urinary H ₂ O ₂ . Administration of MTP 131 (acetate) significantly inhibited increases in albuminuria, urinary H ₂ O ₂ , and mesangial matrix accumulation in db/db mice and fully preserved levels of renal superoxide production in these mice. MTP 131 (acetate) also reduced total renal lysocardiolipin and major lysocardiolipin subspecies and preserved lysocardiolipin acyltransferase 1 expression in db/db mice[1].

Solubility Information

Solubility	PBS (pH 7.2): 10 mg/mL (14.29 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4289 mL	7.1445 mL	14.289 mL
5 mM	0.2858 mL	1.4289 mL	2.8578 mL
10 mM	0.1429 mL	0.7144 mL	1.4289 mL
50 mM	0.0286 mL	0.1429 mL	0.2858 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

Chen M, et al. Protective effect of mitochondria-targeted peptide MTP-131 against oxidative stress-induced apoptosis in RGC-5 cells. *Mol Med Rep.* 2017 Apr;15(4):2179-2185.

Miyamoto S, Zhang G, Hall D, Oates PJ, Maity S, Madesh M, Han X, Sharma K. Restoring mitochondrial superoxide levels with elamipretide (MTP-131) protects db/db mice against progression of diabetic kidney disease. *J Biol Chem.* 2020 May 22;295(21):7249-7260. doi: 10.1074/jbc.RA119.011110. Epub 2020 Apr 10. PMID: 32277051; PMCID: PMC7247302.

Miyamoto, S., Zhang, G., Hall, D., et al. Restoring mitochondrial superoxide levels with elamipretide (MTP-131) protects db/db mice against progression of diabetic kidney disease. *J. Biol. Chem.* 295(21)7249-7260(2020)

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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