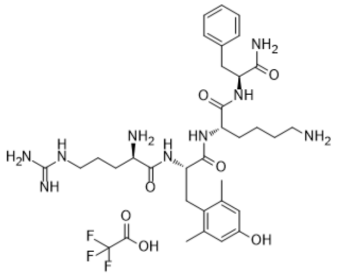
Elamipretide TFA



Cat. No.:	HY-P0125A
CAS No.:	1606994-55-1
Molecular Formula:	$C_{34}H_{50}F_3N_9O_7$
Molecular Weight:	753.81
Sequence:	{d-Arg}-{Dmt}-Lys-Phe-NH2
Sequence Shortening:	{d-Arg}-{Dmt}-KF-NH2
Target:	Mitochondrial Metabolism
Pathway:	Metabolic Enzyme/Protease
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (66.33 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.3266 mL	6.6330 mL	13.2659 mL
5 mM	0.2653 mL	1.3266 mL	2.6532 mL
10 mM	0.1327 mL	0.6633 mL	1.3266 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Elamipretide TFA (MTP-131 TFA; RX-31 TFA; SS-31 TFA) is the TFA salt form of Elamipretide (HY-P0125). Elamipretide TFA is a mitochondria-targeting peptide, which ameliorates myocardial infarction, improves the renal function and protects neurons form inflammatory and oxidative stress injury[1][2].

IC_{50} & Target

Cardiolipin peroxidase[1]

In Vivo

Elamipretide TFA (5 mg/kg, i.p., once daily for 3 days) exhibits neuroprotective effects, protects the hippocampus from mitochondrial dysfunction, and attenuates the oxidative stress and inflammatory response in Lipopolysaccharide (HY-D1056)-induced cognitive impairment in C57BL/6 mice model[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	LPS-induced cognitive impairment in C57BL/6 mice model[1]
Dosage:	5 mg/kg
Administration:	i.p., once daily for 3 days
Result:	Maintained the mitochondrial function, ROS and MDA levels, and SOD activity. Inhibited neural cell apoptosis in hippocampus, enhanced the hippocampal BDNF pathway and synaptic structural complexity.

CUSTOMER VALIDATION

- Sci Adv. 2022 Apr 8;8(14):eabl4370.
- Cell Commun Signal. 2024 Jan 10;22(1):26.
- JCI Insight. 2021 Dec 7;e152102.
- Biomed Pharmacother. 2024 Jan 9:171:116110.
- Hum Mol Genet. 2019 Apr 1;28(7):1100-1116.

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REFERENCES

[1]. Zhao W, et al., Elamipretide (SS-31) improves mitochondrial dysfunction, synaptic and memory impairment induced by lipopolysaccharide in mice. J Neuroinflammation. 2019 Nov 20;16(1):230.

[2]. Sabbah HN,et al., Chronic Therapy With Elamipretide (MTP-131), a Novel Mitochondria-Targeting Peptide, Improves Left Ventricular and Mitochondrial Function in Dogs With Advanced Heart Failure. Circ Heart Fail. 2016 Feb;9(2):e002206.

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