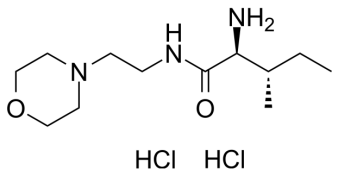
LM11A-31 dihydrochloride

Cat. No.:	HY-110155
CAS No.:	1243259-19-9
Molecular Formula:	$C_{12}H_{27}Cl_2N_3O_2$
Molecular Weight:	316.27
Target:	Neurotensin Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	4°C, stored under nitrogen, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (316.19 mM; ultrasonic and warming and heat to 60°C)

H_2O : 100 mg/mL (316.19 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.1619 mL	15.8093 mL	31.6186 mL
5 mM	0.6324 mL	3.1619 mL	6.3237 mL
10 mM	0.3162 mL	1.5809 mL	3.1619 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (316.19 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

LM11A-31 dihydrochloride, a non-peptide $p75^{NTR}$ (neurotrophin receptor p75) modulator, is an orally active and potent proNGF (nerve growth factor) antagonist. LM11A-31 dihydrochloride is an amino acid derivative with high blood-brain barrier permeability and blocks p75-mediated cell death. LM11A-31 dihydrochloride reverses cholinergic neurite dystrophy in Alzheimer's disease mouse models with mid- to late-stage disease progression[1][2].

IC_{50} & Target

proNGF[1]

In Vivo

LM11A-31 (oral gavage; 50 mg kg/day for 4 weeks) significantly mitigates proNGF accumulation and preserves BRB integrity [1].

LM11A-31 (orally; 50 or 75 mg/kg) administered for 3 months starting at 6-8 months of age prevents and/or reverses atrophy of basal forebrain cholinergic neurites and cortical dystrophic neurites in mid-stage male APPL/S mice[2].

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

Animal Model:	Male C57BL/6 J mice[1]
Dosage:	50 mg kg/day
Administration:	Oral gavage; for 4 weeks
Result:	Mitigated proNGF accumulation and preserved BRB integrity.

CUSTOMER VALIDATION

- Cell Genom. 2024 Aug 26:100642.
- Glia. 2022 Jan 22.
- Exp Neurol. 2023 Nov 27:114618.
- Mol Neurobiol. 2023 Oct 16.
- Exp Neurol. 2022 Jul 1;114161.

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REFERENCES

[1]. Elshaer SL, et al. Modulation of the p75 neurotrophin receptor using LM11A-31 prevents diabetes-induced retinalvascular permeability in mice via inhibition of inflammation and the RhoA kinase pathway. Diabetologia. 2019 Aug;62(8):1488-1500.

[2]. Simmons DA, et al. A small molecule p75NTR ligand, LM11A-31, reverses cholinergic neurite dystrophy in Alzheimer's disease mouse models with mid- to late-stage disease progression. PLoS One. 2014 Aug 25;9(8):e102136.

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