Cyclotraxin B

Cat. No.: HY-P1178

CAS No.: 1203586-72-4

Molecular Formula: $C_{48}H_{73}N_{13}O_{17}S_3$

Molecular Weight: 1200.37

Sequence Shortening: CNPMGYTKEGC (Disulfide bridge:Cys1-Cys11)

Target: Trk Receptor

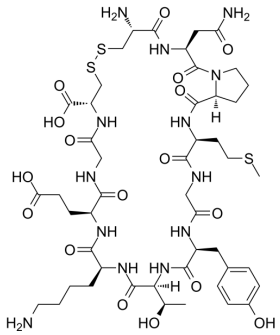
Pathway: Neuronal Signaling; Protein Tyrosine Kinase/RTK

Storage: Stored under nitrogen, away from moisture

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (83.31 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.8331 mL	4.1654 mL	8.3308 mL
	5 mM	0.1666 mL	0.8331 mL	1.6662 mL
	10 mM	0.0833 mL	0.4165 mL	0.8331 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 (83.31 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Cyclotraxin B, a cyclic peptide, is a highly potent and selective TrkB inhibitor without altering the binding of BDNF. Cyclotraxin B non-competitively inhibits BDNF-induced TrkB activity with an IC_{50} of 0.30 nM. Cyclotraxin B can crosse the blood-brain-barrier and has analgesic and anxiolytic-like behavioral effects[1][2][3].

IC_{50} & Target

TrkB

CUSTOMER VALIDATION

- J Mol Neurosci. 2022 Dec 17.
- Genes Brain Behav. 2023 Mar 8;e12842.
- Br J Pharmacol. 2021 Oct 8.

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REFERENCES

[1]. Maxime Cazorla, et al. Cyclotraxin-B, the first highly potent and selective TrkB inhibitor, has anxiolytic properties in mice. PLoS One. 2010 Mar 19;5(3):e9777.

[2]. Luis Constandil, et al. Cyclotraxin-B, a new TrkB antagonist, and glial blockade by propentofylline, equally prevent and reverse cold allodynia induced by BDNF or partial infraorbital nerve constriction in mice. J Pain. 2012 Jun;13(6):579-89.

[3]. Michel M M Verheij, et al. Systemic Delivery of a Brain-Penetrant TrkB Antagonist Reduces Cocaine Self-Administration and Normalizes TrkB Signaling in the Nucleus Accumbens and Prefrontal Cortex. J Neurosci. 2016 Aug 3;36(31):8149-59.

Caution: Product has not been fully validated for medical applications. For research use only.

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