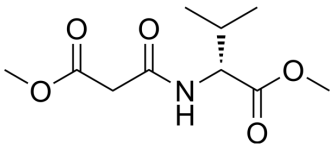
ZLc-002

Cat. No.:	HY-147306
CAS No.:	1446971-41-0
Molecular Formula:	$C_{10}H_{17}NO_5$
Molecular Weight:	231.25
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

ZLc-002 is a selective inhibitor of nNOS-Capon coupling. ZLc-002 suppresses inflammatory nociception and chemotherapy-induced neuropathic pain. ZLc-002 can be used for the research of anxiety disorder and inflammation[1][2][3].

In Vitro

ZLc-002 (1 μM; 24 h) inhibits nNOS-CAPON in cultured hippocampal neurons from ICR mice[3].

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

Cell Viability Assay[3]

Cell Line:	ICR mice hppocampal neurons
Concentration:	1 μM
Incubation Time:	24 h
Result:	Inhibited the nNOS-CAPON in cultured hippocampal neurons from ICR mice.

In Vivo

ZLc-002 (30 mg/kg; i.p. from 4-10 days until 46 days after stroke everyday) improves motor function in tMCAO mice[1].

ZLc-002 (40 mg/kg; i.v. once per day for seven days) improves chronic mild stress (CMS)-induced anxiety-related behaviours[2].

ZLc-002 (10 μM 1 μL; hippocampus injection once per day for seven days) improves corticosterone (CORT)-induced anxiety-related behaviours[2].

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

Animal Model:	tMCAO mice[2]
Dosage:	30 mg/kg
Administration:	Intraperitoneal injection; 30 mg/kg per day; from 4–10 days until 46 days after stroke
Result:	Signally ameliorated sroke-induced impairment of motor function and recovered from stroke in the delayed phase.

Animal Model:	Adult male ICR mice with CMS exposure[2]

Dosage:	40 mg/kg
Administration:	Intravenous injection; 40 mg/kg once per day; from 21-27 days of CMS exposure for 7 days
Result:	Showed a therapeutic effect in CMS-induced anxiety disorder.

Animal Model:	Adult male ICR mice with CORT[2]
Dosage:	10 μM 1 μL
Administration:	Hippocampus injection; 10 μM 1 μL once per day; from 21-27 days of CORT reatmentfor 7 days
Result:	Showed a therapeutic effect in chronic stress-induced anxiety disorders.

REFERENCES

[1]. Ni HY, et al.Dissociating nNOS (Neuronal NO Synthase)-CAPON (Carboxy-Terminal Postsynaptic Density-95/Discs Large/Zona Occludens-1 Ligand of nNOS) Interaction Promotes Functional Recovery After Stroke via Enhanced Structural Neuroplasticity. Stroke. 2019 Mar;50(3):728-737.

[2]. Zhu LJ, et al. nNOS-CAPON blockers produce anxiolytic effects by promoting synaptogenesis in chronic stress-induced animal models of anxiety. Br J Pharmacol. 2020 Aug;177(16):3674-3690.

[3]. Zhu LJ, et al.CAPON-nNOS coupling can serve as a target for developing new anxiolytics. Nat Med. 2014 Sep;20(9):1050-4. doi: 10.1038/nm.3644. Epub 2014 Aug 17.

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