ZZL-7

Cat. No.: HY-148417

CAS No.: 99141-91-0

Molecular Formula: $C_{11}H_{20}N_2O_4$

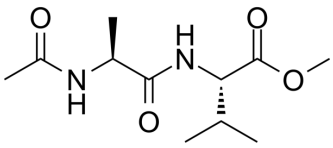
Molecular Weight: 244.29

Target: Serotonin Transporter

Pathway: Neuronal Signaling

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1023.37 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.0935 mL	20.4675 mL	40.9350 mL
	5 mM	0.8187 mL	4.0935 mL	8.1870 mL
	10 mM	0.4093 mL	2.0467 mL	4.0935 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.51 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.51 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.51 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ZZL-7 is a fast-onset antidepressant agent. ZZL-7 works by disrupting the interaction between the serotonin transporter (SERT) and neuronal nitric oxide synthase (nNOS) in the dorsal raphe nucleus (DRN). ZZL-7 can cross the blood-brain barrier readily. ZZL-7 can be used for the research of major depressive disorder (MDD)[1].

In Vitro

ZZL-7 (1.0 μM; or 2 h) incubation of the cultured 293T cells transfected with nNOS and SERT, significantly decreases the SERT-nNOS complex level[1].

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

In Vivo

ZZL-7 (10 mg/kg, intraperitoneally) causes significantly increases firing frequency of serotonergic neurons 2 hours after

treatment in vivo electrophysiology in SERT-Cre mice. In wild-type mice, ZZL-7 reduces immobility time[1].
Intragastric administration of ZZL-7 (10, 20, and 40 mg/kg; once) produces antidepressant-like behaviors dose dependently 2 hours after treatment[1].
ZZL-7 (10 mg/kg; intraperitoneal administration) reverses chronic unpredictable mild stress (CMS)-induced depressions behaviors 2 hours after treatment[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	SERT-Cre mice[1]
Dosage:	10 mg/kg
Administration:	i.p.; once
Result:	Significantly increased firing frequency of serotonergic neurons 2 hours after treatment in vivo electrophysiology in SERT-Cre mice.

REFERENCES

[1]. Nan Sun, et al. Design of fast-onset antidepressant by dissociating SERT from nNOS in the DRN. Science. 2022 Oct 28;378(6618):390-398.

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