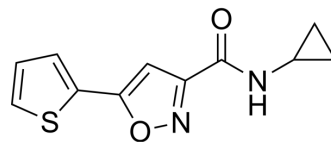


ISX-9

Cat. No.:	HY-12323		
CAS No.:	832115-62-5		
Molecular Formula:	C ₁₁ H ₁₀ N ₂ O ₂ S		
Molecular Weight:	234.27		
Target:	Calcium Channel		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (426.86 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	4.2686 mL	21.3429 mL	42.6858 mL
	5 mM	0.8537 mL	4.2686 mL	8.5372 mL
	10 mM	0.4269 mL	2.1343 mL	4.2686 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (10.67 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 2.5 mg/mL (10.67 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (10.67 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ISX-9 (Isoxazole 9) is a potent inducer of adult neural stem cell differentiation. ISX-9 activates Ca²⁺ influx through both voltage-gated Ca²⁺ channels and NMDA receptors and increases neuroD expression. ISX-9 also induces cardiomyogenic differentiation of Notch-activated epicardium-derived cells (NECs)^{[1][2][3]}.

In Vivo

ISX-9 (20 mg/kg; for 12 days; mice) treatment improves hippocampal function. ISX-9 enhances spatial memory ability in the Morris water maze test. ISX-9 enhances hippocampal neurogenesis and memory in vivo, and its effects are reliant on Mef2^[1].

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

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2022 Mar 3;e2104682.
- Materials Today Chemistry 12 (2019) 78e84
- Stem Cells Transl Med. 2023 Dec 30:szad085.
- Stem Cell Reports. 2017 Mar 14;8(3):538-547.
- Int J Mol Sci. 2023, 24(4), 3846.

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REFERENCES

- [1]. Petrik D, et al. Functional and mechanistic exploration of an adult neurogenesis-promoting small molecule. FASEB J. 2012 Aug;26(8):3148-3162.
- [2]. Jay W Schneider, et al. Small-molecule activation of neuronal cell fate. Nat Chem Biol. 2008 Jul;4(7):408-10.
- [3]. Jamie L Russell, et al. Targeting native adult heart progenitors with cardiogenic small molecules. ACS Chem Biol. 2012 Jun 15;7(6):1067-76.
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Caution: Product has not been fully validated for medical applications. For research use only.

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