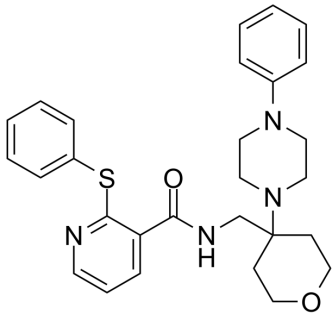
JNJ-47965567

Cat. No.:	HY-101418
CAS No.:	1428327-31-4
Molecular Formula:	$C_{28}H_{32}N_4O_2S$
Molecular Weight:	488.64
Target:	P2X Receptor
Pathway:	Membrane Transporter/Ion Channel
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (204.65 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0465 mL	10.2325 mL	20.4650 mL
	5 mM	0.4093 mL	2.0465 mL	4.0930 mL
	10 mM	0.2046 mL	1.0232 mL	2.0465 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: ≥ 2.5 mg/mL (5.12 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.12 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.12 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

JNJ-47965567 is a centrally permeable, high-affinity, selective P2X7 antagonist, with pK_is of 7.9 and 8.7 for human and rat P2X7, respectively. JNJ-47965567 can be used to probe the role of central P2X7 in rodent models of CNS pathophysiology[1].

IC_{50} & Target

pKi: 7.9 (huaman P2X7), 8.7 (rat P2X7)[1]

In Vitro

JNJ-47965567 exhibits high affinity for human and rat P2X7 in membrane preparations of 1321N1 cells[1].
JNJ-47965567 does not block IL-6 and TNF-α release, under identical conditions (LPS and BZ-ATP) used for IL-1β and IL-18

release[1].
JNJ-47965567 attenuates IL-1β release with pIC_{50}s of 6.7 ± 0.07 (human blood), 7.5 ± 0.07 (human monocytes) and 7.1 ± 0.1 (rat microglia), respectively, in native systems[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

JNJ-47965567 (30-100 mg/kg; s.c.) attenuates IL-1β release induced by Bz-ATP[1].
JNJ-47965567 (30 mg/kg) attenuates amphetamine-induced hyperactivity and exhibits modest, yet significant efficacy in the rat model of neuropathic pain[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague Dawley rats[1]
Dosage:	30 mg/kg, 100 mg/kg
Administration:	Subcutaneous injection; 30 minutes prior to Bz-ATP infusion
Result:	Significantly attenuated IL-1β release at 100 mg/kg, with no effect at 30 mg/kg dose group.

CUSTOMER VALIDATION

- FASEB J. 2023 Jun;37(6):e22955.
- J Neurochem. 2022 Oct 21.

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REFERENCES

[1]. Bhattacharya A, et al. Pharmacological characterization of a novel centrally permeable P2X7 receptor antagonist: JNJ-47965567. Br J Pharmacol. 2013 Oct;170(3):624-40.

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