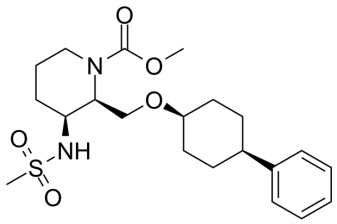
Danavorexton

Cat. No.:	HY-133898
CAS No.:	2114324-48-8
Molecular Formula:	$C_{21}H_{32}N_2O_5S$
Molecular Weight:	424.55
Target:	Orexin Receptor (OX Receptor)
Pathway:	GPCR/G Protein; Neuronal Signaling
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 : ≥ 50 mg/mL (117.77 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3554 mL	11.7772 mL	23.5544 mL
5 mM	0.4711 mL	2.3554 mL	4.7109 mL
10 mM	0.2355 mL	1.1777 mL	2.3554 mL

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

In Vivo

1. Add each solvent one by one: 0.5% CMC/saline water
   Solubility: 12.5 mg/mL (29.44 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Danavorexton (TAK-925) is an orexin receptor agonist with brain permeability. Danavorexton induces a physiological pattern of OX2R activation in vitro to wake up sleepy mice and improve sleepiness symptoms[1][2][3][4].

In Vivo

Danavorexton (1, 10 mg/kg or 1, 3 mg/kg, subcutaneous injection) dose-dependent enhanced arousal in common marmosets and cynomolgus monkeys[2].

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

Animal Model:	Common marmosets and cynomolgus monkeys models[2]
Dosage:	1, 10 mg/kg (1, 3 mg/kg)

Administration:	s.c.
Result:	Decreased SWS I (Sleeping With Sirens I), SWS II (Sleeping With Sirens II) and REM (Rapid Eye Movement) sleep time.

REFERENCES

[1]. Evans R, et al. Orexin 2 receptor-selective agonist danavorexton (TAK-925) promotes wakefulness in non-human primates and healthy individuals. J Sleep Res. 2023 Oct;32(5):e13878

[2]. Ishikawa T, et al. Danavorexton, a selective orexin 2 receptor agonist, provides a symptomatic improvement in a narcolepsy mouse model. Pharmacol Biochem Behav. 2022 Oct;220:173464.

[3]. Fujimoto T, et al. Discovery of TAK-925 as a Potent, Selective, and Brain-Penetrant Orexin 2 Receptor Agonist. ACS Med Chem Lett. 2022 Feb 4;13(3):457-462.

[4]. International Nonproprietary Names for Pharmaceutical Substances (INN). WHO Drug Information, Vol. 34, No. 2, 2020.

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