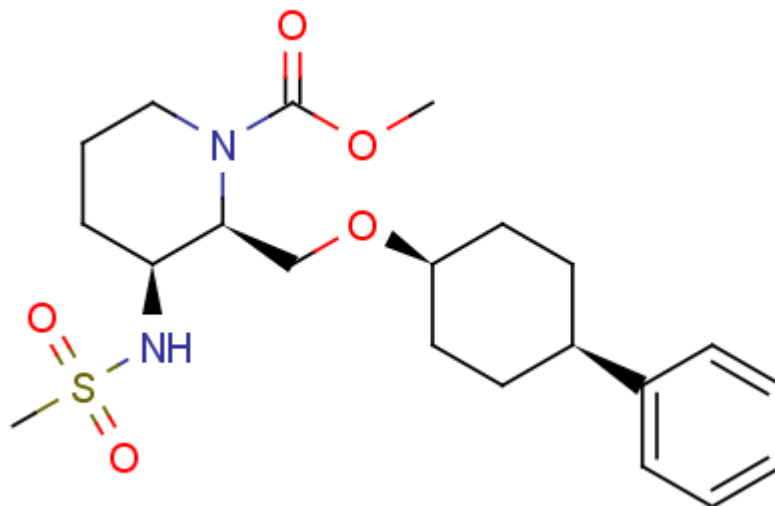


**Name: TAK-925 Cat#: EX-A6332**

Target: Orexin Receptor (OX Receptor)

Pathway: GPCR/G Protein; Neuronal Signaling

Chemical Structure:



Chemical Name	Methyl (2R,3S)-3-((methylsulfonyl)amino)-2-(((cis-4-phenylcyclohexyl)oxy)methyl)piperidine-1-carboxylate
Canonical SMILES	<chem>O=C(OC)N1CCCC(NS(=O)(=O)C)C1COC2CCC(C=CC=CC3)CC2</chem>
Isomeric SMILES	<chem>C(O[C@@H]1CC[C@@H](CC1)C2=CC=CC=C2)[C@H]3[C@@H](NS(C)(=O)=O)CCCN3C(OC)=O</chem>
InChI	InChI=1S/C21H32N2O5S/c1-27-21(24)23-14-6-9-19(22-29(2,25)26)20(23)15-28-18-12-10-17(11-13-18)16-7-4-3-5-8-16/h3-5,7-8,17-20,22H,6,9-15H2,1-2H3/t17-,18+,19-,20-/m0/s1
InChI Key	UXZAJSZFFARTEI-YRPNKDGESA-N

Molecular Weight	424.55	Storage	2 years 4°C powder
Formula	C <sub>21</sub> H <sub>32</sub> N <sub>2</sub> O <sub>5</sub> S		3 years -20°C powder
			6 months -80°C in solvent

CAS No.	2114324-48-8	Synonyms	Danavorexton; TAK 925; TAK925
---------	--------------	----------	-------------------------------

Solubility (25°C) *	In vitro	DMSO	DMSO : Soluble
		Ethanol	N/A
		Water	N/A
	In vivo (should be freshly prepared each time)		

\* <1 mg/ml means slightly soluble or insoluble.

\* Please note that Selleck tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.

#### Preparing Stock Solutions:

Concentration	Mass Volume	1 mg	5 mg	10 mg
		1 mM	2.3554 mL	11.7772 mL
5 mM	0.4711 mL	2.3554 mL	4.7109 mL	
10 mM	0.2355 mL	1.1777 mL	2.3554 mL	

DMSO : \*The above data is based on the product molecular weight 424.55.

<b>In Vivo</b>	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 Activities:

<b>Description</b>	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 <sup>[1][2][3][4]</sup> .
<b>In Vivo</b>	Danavorexton (1, 10 mg/kg or 1, 3 mg/kg, subcutaneous injection) dose-dependent enhanced arousal in common marmosets and cynomolgus monkeys <sup>[2]</sup> .  Animal Model: Common marmosets and cynomolgus monkeys models <sup>[2]</sup> 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.

<b>References</b>	<p>[1]. Evans R, et al. Orexin 2 receptor-selective agonist danavorexton (TAK-925) promotes wakefulness in non-human primates and healthy individuals. <i>J Sleep Res.</i> 2023 Oct;32(5):e13878</p> <p>[2]. Ishikawa T, et al. Danavorexton, a selective orexin 2 receptor agonist, provides a symptomatic improvement in a narcolepsy mouse model. <i>Pharmacol Biochem Behav.</i> 2022 Oct;220:173464.</p> <p>[3]. Fujimoto T, et al. Discovery of TAK-925 as a Potent, Selective, and Brain-Penetrant Orexin 2 Receptor Agonist. <i>ACS Med Chem Lett.</i> 2022 Feb 4;13(3):457-462.</p> <p>[4]. International Nonproprietary Names for Pharmaceutical Substances (INN). WHO Drug Information, Vol. 34, No. 2, 2020.</p>
-------------------	--