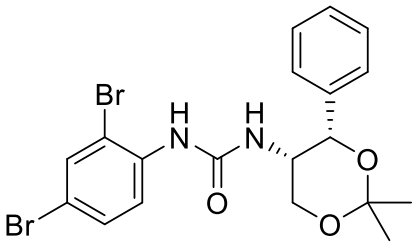
Product data sheet

MedKoo Cat#: 525303 Name: JNJ-10397049 CAS: 708275-58-5 Chemical Formula: $C_{19}H_{20}Br_2N_2O_3$ Exact Mass: 481.9841 Molecular Weight: 484.188	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
JNJ-10397049 is a potent and selective OX2 receptor antagonist (pIC50 = 7.4 for chimeric OX2 receptors; pKB values are 5.9 and 8.5 for OX1 and OX2 receptors respectively). It shows no significant activity in a panel of over 50 other neurotransmitters and neuropeptide receptors. JNJ-10397049 achieves high level of OX2 receptor occupancy in the rat brain.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	50.0	103.27
DMF:PBS (pH 7.2) (1:4)	0.2	0.41
DMSO	100.0	206.53
Ethanol	30.0	61.96

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.07 mL	10.33 mL	20.65 mL
5 mM	0.41 mL	2.07 mL	4.13 mL
10 mM	0.21 mL	1.03 mL	2.07 mL
50 mM	0.04 mL	0.21 mL	0.41 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Karami N, Azari H, Rahimi M, Aligholi H, Kalantari T. A study on the effect of JNJ-10397049 on proliferation and differentiation of neural precursor cells. Anat Cell Biol. 2022 Jun 30;55(2):179-189. doi: 10.5115/acb.21.202. Epub 2022 Apr 25. PMID: 35466086; PMCID: PMC9256489.

In vivo study

1. Gozzi A, Turrini G, Piccoli L, Massagrande M, Amantini D, Antolini M, Martinelli P, Cesari N, Montanari D, Tessari M, Corsi M, Bifone A. Functional magnetic resonance imaging reveals different neural substrates for the effects of orexin-1 and orexin-2 receptor antagonists. PLoS One. 2011 Jan 28;6(1):e16406. doi: 10.1371/journal.pone.0016406. PMID: 21307957; PMCID: PMC3030585.
2. Dugovic C, Shelton JE, Aluisio LE, Fraser IC, Jiang X, Sutton SW, Bonaventure P, Yun S, Li X, Lord B, Dvorak CA, Carruthers NI, Lovenberg TW. Blockade of orexin-1 receptors attenuates orexin-2 receptor antagonism-induced sleep promotion in the rat. J Pharmacol Exp Ther. 2009 Jul;330(1):142-51. doi: 10.1124/jpet.109.152009. Epub 2009 Apr 10. PMID: 19363060.

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7. Bioactivity

Biological target:

JNJ-10397049 is a potent and selective orexin 2 receptor (OX2R) antagonist, with a pKi of 8.3.

In vitro activity

The results of MTT assay showed that the effect of JNJ-10397049 on NPCs proliferation was concentration dependent (Fig. 2). At 1 and 5 μM of JNJ-10397049, cell proliferation significantly increased ($F=55.478$, $P<0.001$).

Reference: Anat Cell Biol. 2022 Jun 30;55(2):179-189. https://pubmed.ncbi.nlm.nih.gov/35466086/

In vivo activity

JNJ10397049 showed profound sleep-promoting effects in rats at all doses tested (5, 25 and 50 mg/kg i.p.). More specifically, JNJ10397049 substantially increased REM, NREM and total sleep-time across the whole 5 hour time-window of recording at all doses tested (Figure 6).

Reference: PLoS One. 2011 Jan 28;6(1):e16406. https://pubmed.ncbi.nlm.nih.gov/21307957/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.