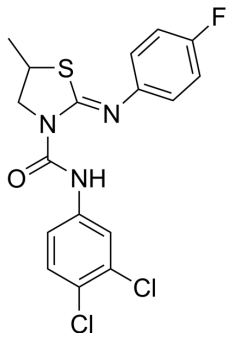
JR-AB2-011

Cat. No.:	HY-122022
CAS No.:	2411853-34-2
Molecular Formula:	$C_{17}H_{14}Cl_2FN_3OS$
Molecular Weight:	398.28
Target:	mTOR
Pathway:	PI3K/Akt/mTOR
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (156.92 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5108 mL	12.5540 mL	25.1080 mL
	5 mM	0.5022 mL	2.5108 mL	5.0216 mL
	10 mM	0.2511 mL	1.2554 mL	2.5108 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: ≥ 2.08 mg/mL (5.22 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.22 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

JR-AB2-011 is a selective mTORC2 inhibitor with an IC_{50} value of 0.36 μM. JR-AB2-011 inhibits mTORC2 activity by blocking Rictor-mTOR association (K_i: 0.19 μM). JR-AB2-011 has anti-glioblastoma multiforme (GBM) properties[1].

IC_{50} & Target

mTORC2
0.36 μM (IC_{50})

In Vitro

JR-AB2-011 (1 μM; 24 hours) has good anti-GBM properties, blocks mTORC2 signaling and Rictor association with mTOR[1].
JR-AB2-011 (0.5-2 μM; 48 hours) displays the least toxicity to normal neurons with no significant cytotoxic effects for concentrations up to 10 mM compared to CID613034[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	U87 GBM cells; LN229 GBM cells
Concentration:	1 μM
Incubation Time:	24 hours
Result:	Had good anti-GBM properties and blocked mTORC2 signaling and Rictor association with mTOR.

Cell Cytotoxicity Assay[1]

Cell Line:	Normal mature human neurons
Concentration:	0.5, 1, 2 μM
Incubation Time:	48 hours
Result:	Displayed the least toxicity to normal neurons with no significant cytotoxic effects for concentrations up to 10 mM.

In Vivo

Mice receiving JR-AB2-011 (4 mg/kg; daily i.p. for 10 days; 20 mg/kg; daily i.p. for 10 days) at either dosing regimen display marked inhibition of tumor growth rate (JR-AB2-011 at 4 mg/kg/d; 74% inhibition at end of dosing period; tumor growth delay 10.0 days; JR-AB2-011 at 20 mg/kg/d; 80% inhibition at end of dosing period; tumor growth delay 12.0 days) as compared to mice receiving vehicle alone[1].

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

Animal Model:	LN229 cells in female C.B.-17-scid (Taconic) mice[1]
Dosage:	4 mg/kg; 20 mg/kg
Administration:	Daily i.p.; 10 days
Result:	Either dosing regimen displayed marked inhibition of tumor growth rate as compared to mice receiving vehicle alone.

CUSTOMER VALIDATION

- Sci Immunol. 2022 Jan 21;7(67):eabj5501.
- J Exp Med. 2023 Oct 2;220(10):e20222056.
- Pharmacol Res. 2021 Jul 31;105796.
- Cell Death Dis. 2022 Feb 3;13(2):107.
- Int J Mol Sci. 2021 Apr 21;22(9):4322.

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REFERENCES

[1]. Benavides-Serrato A, et al. Correction: Specific blockade of Rictor-mTOR association inhibits mTORC2 activity and is cytotoxicin glioblastoma. PLoS One. 2019 Feb 6;14(2):e0212160.

Caution: Product has not been fully validated for medical applications. For research use only.

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