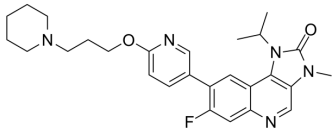
AZD1390

Cat. No.:	HY-109566
CAS No.:	2089288-03-7
Molecular Formula:	$C_{27}H_{32}FN_5O_2$
Molecular Weight:	477.57
Target:	ATM/ATR
Pathway:	Cell Cycle/DNA Damage; PI3K/Akt/mTOR
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 1 year -20°C 6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (10.47 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.0939 mL	10.4697 mL	20.9393 mL
5 mM	0.4188 mL	2.0939 mL	4.1879 mL
10 mM	0.2094 mL	1.0470 mL	2.0939 mL

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

BIOLOGICAL ACTIVITY

Description

AZD1390 is a potent, highly selective, orally bioavailable, brain-penetrant ATM inhibitor with an IC_{50} of 0.78 nM in cell[1].

IC_{50} & Target

ATM

In Vivo

Median survival of mice treated with AZD1390 and radiation are significantly longer than untreated control mice (p=0.001). No overt signs of treatment toxicity are observed with small animal radiation research platform (SARRP) contrary to wholehead irradiated mice that seem to develop mucositis and difficulties drinking and eating at doses >10 Gy in combination with AZD1390[2].

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

PROTOCOL

Animal

Mouse GL261 glioma (p53 mutant) cells are implanted intra-cranially into immunocompetent, syngeneic C57/bl6 mice

Administration [2]	followed by bioluminescent imaging (BLI) prior to randomization. AZD1390 is administered by oral gavage prior to deliver multiple fractions of 2-3 Gy of radiation on 2 to 4 consecutive days. Radiation is administered via small animal radiation research platform (SARRP) irradiation to the site of the tumor with a 5×5 mm lateral field[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Nanotechnol. 2021 Jul;16(7):830-839.
- EMBO J. 2023 Feb 2;e112094.
- Int J Radiat Oncol Biol Phys. 2022.
- Shock. 2023 Jul 1;60(1):100-109.

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REFERENCES

[1]. Durant ST, et al. The brain-penetrant clinical ATM inhibitor AZD1390 radiosensitizes and improves survival of preclinical brain tumor models. Sci Adv. 2018 Jun 20;4(6):eaat1719.

[2]. J. Kahn, et al. Next-Generation ATM Kinase Inhibitors Under Development Radiosensitize Glioblastoma With Conformal Radiation in a Mouse Orthotopic Model. IJROBP. 2017. 99, 600-601.

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