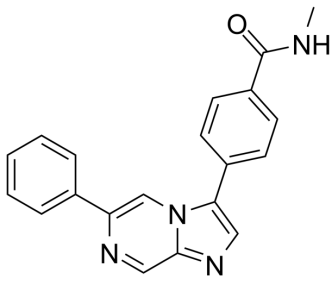
AZ32

Cat. No.:	HY-112305
CAS No.:	2288709-96-4
Molecular Formula:	$C_{20}H_{16}N_4O$
Molecular Weight:	328.37
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 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 150 mg/mL (456.80 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0453 mL	15.2267 mL	30.4535 mL
	5 mM	0.6091 mL	3.0453 mL	6.0907 mL
	10 mM	0.3045 mL	1.5227 mL	3.0453 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: ≥ 2.5 mg/mL (7.61 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.61 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AZ32 is an orally bioavailable and blood-brain barrier-penetrating ATM inhibitor with an IC_{50} of <6.2 nM for ATM enzyme, and an IC_{50} of 0.31 μM for ATM in cell.

IC_{50} & Target		
	ATM 6.2 nM (IC_{50})	ATM 0.31 μM (IC_{50}, in cell)

In Vitro	AZ32 is a next-generation blood-brain barrier (BBB)-penetrating ATM inhibitor. AZ32 blocks the DNA damage response and radiosensitized GBM cells in vitro[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	AZ32, with enhanced BBB penetration, is highly efficient in vivo as radiosensitizer in syngeneic and human, orthotopic mouse glioma model compared with AZ31. AZ32 is a specific inhibitor of the ATM kinase that possesses good BBB penetration in mouse. Following a single oral dose of AZ32 (200 mg/kg) in mice, the free-brain concentrations of AZ32 are in excess of the cellular IC_{50} for approximately 22 hours[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Karlin J, et al. Orally Bioavailable and Blood-Brain Barrier-Penetrating ATM Inhibitor (AZ32) Radiosensitizes Intracranial Gliomas in Mice. Mol Cancer Ther. 2018 Aug;17(8):1637-1647.

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