AZD0156

Cat. No.: HY-100016

CAS No.: 1821428-35-6

Molecular Formula: $C_{26}H_{31}N_5O_3$

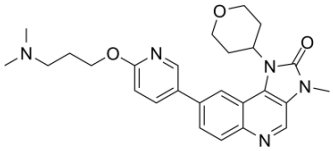
Molecular Weight: 461.56

Target: ATM/ATR; Apoptosis

Pathway: Cell Cycle/DNA Damage; PI3K/Akt/mTOR; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20 mg/mL (43.33 mM; ultrasonic and adjust pH to 3 with HCl)

DMSO : 4 mg/mL (8.67 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1666 mL	10.8328 mL	21.6657 mL
5 mM	0.4333 mL	2.1666 mL	4.3331 mL
10 mM	0.2167 mL	1.0833 mL	2.1666 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: 0.83 mg/mL (1.80 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 0.83 mg/mL (1.80 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 0.83 mg/mL (1.80 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

AZD0156 is a potent, selective and orally active ATM inhibitor with an IC_{50} of 0.58 nM. AZD0156 inhibits the ATM-mediated signaling, prevents DNA damage checkpoint activation, disrupts DNA damage repair, and induces tumor cell apoptosis[1].

IC_{50} & Target

ATM

In Vitro	AZD0156 inhibits the kinase activity of ATM and ATM-mediated signaling, prevents DNA damage checkpoint activation, and disrupts DNA damage repair, inducs tumor cell apoptosis, and leads to cell death in ATM-overexpressing tumor cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	HT29 cells are seeded into 384 well assay plates at a density of 6000 cells/well in 40 µL EMEM medium containing 1% L glutamine and 10% FBS and allowed to adhere overnight. The following morning compound of Formula (I) in 100% DMSO is added to assay plates by acoustic dispensing. After lh incubation at 37°C and 5% $C0_2$, 40 nL of 3 mM 4NQO in 100% DMSO is added to all wells by acoustic dispensing, except minimum control wells which are left untreated with 4NQO to generate a null response control. Plates are returned to the incubator for a further lh. Then cells are fixed by adding 20 µL of 3.7% formaldehyde in PBS solution and incubating for 20 mins at r.t.. Then 20 µL of 0.1% Triton XI 00 in PBS is added and incubated for 10 minutes at r.t., to permeabalise cells. Then the plates are washed once with 50 µL/well PBS, using a Biotek EL405 plate washer. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cancer Discov. 2020 Nov;10(11):1742-1757.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

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REFERENCES

[1]. Imidazo[4,5-c]quinolin-2-one compounds and their use in treating cancer.?

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