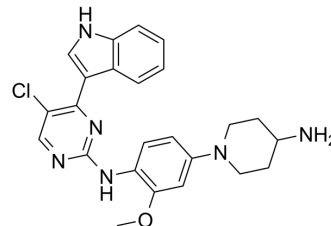


AZD-3463

Cat. No.:	HY-15609												
CAS No.:	1356962-20-3												
Molecular Formula:	C ₂₄ H ₂₅ ClN ₆ O												
Molecular Weight:	448.95												
Target:	Anaplastic lymphoma kinase (ALK); IGF-1R; Autophagy; Apoptosis												
Pathway:	Protein Tyrosine Kinase/RTK; Autophagy; Apoptosis												
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>2 years</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 year</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	2 years		-20°C	1 year
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	-20°C	1 year											



SOLVENT & SOLUBILITY

In Vitro	DMSO : 20 mg/mL (44.55 mM; Need ultrasonic)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>2.2274 mL</td> <td>11.1371 mL</td> <td>22.2742 mL</td> </tr> <tr> <td>5 mM</td> <td>0.4455 mL</td> <td>2.2274 mL</td> <td>4.4548 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2227 mL</td> <td>1.1137 mL</td> <td>2.2274 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	2.2274 mL	11.1371 mL	22.2742 mL	5 mM	0.4455 mL	2.2274 mL	4.4548 mL	10 mM	0.2227 mL	1.1137 mL	2.2274 mL
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	Please refer to the solubility information to select the appropriate solvent.																					
In Vivo	<p>1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline</p> <p>Solubility: ≥ 2 mg/mL (4.45 mM); Clear solution</p>																					

BIOLOGICAL ACTIVITY

Description	AZD-3463 (ALK/IGF1R inhibitor) is an orally active ALK/IGF1R inhibitor, with a K _i of 0.75 nM for ALK. AZD3463 induces apoptosis and autophagy in neuroblastoma cells ^{[1][2][3]} .
In Vitro	<p>AZD-3463 (0-50 μM; 72 h) suppresses the viability and proliferation of both wild type and mutant ALK NB cells^[1].</p> <p>AZD-3463 (10 μM; 0-4 h) effectively inhibits ALK-mediated PI3K/AKT/mTOR signaling and induces apoptosis and autophagy in NB cells^[1].</p> <p>AZD-3463 (0-100 nM; 4 h) inhibits FLT3-ITD-mediated activation of AKT, ERK1/2 and p38 in a dose-dependent manner in MOLM-13 and MV4-11 cells^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Proliferation Assay^[1]</p>

Cell Line:	IMR-32, NGP, NB-19, SH-SY5Y, SK-N-AS and LA-N-6 cells
Concentration:	0-50 μ M
Incubation Time:	72 h
Result:	Inhibited IMR-32, NGP, NB-19, SH-SY5Y, SK-N-AS and LA-N-6 cells with IC ₅₀ values of 2.802, 14.55, 11.94, 1.745, 21.34 and 16.49 μ M, respectively.
Cell Autophagy Assay ^[1]	
Cell Line:	IMR-32, NGP, SH-SY5Y and SK-N-AS cells
Concentration:	10 μ M
Incubation Time:	0-4 h
Result:	Potently inhibited or totally abolished the phosphorylation of Akt Ser473 and RPS6 Thr235/236. Induced cleavage of the autophagy marker LC3 A/BII within four hours.
Apoptosis Analysis ^[2]	
Cell Line:	MOLM-13 and MV4-11 cells
Concentration:	0-100 nM
Incubation Time:	4 h (pretreat)
Result:	Selectively inhibited FLT3-ITD but not ligand-induced wild-type FLT3.
In Vivo	AZD3463 (15 mg/kg; i.p.; once daily for 2 days) inhibits tumor growth in different orthotopic NB xenograft mouse models ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Model:	5 to 6-week-old female athymic Ncr nude mice (SH-SY5Y and NGP xenograft tumors bearing mice) ^[1] .
Dosage:	15 mg/kg
Administration:	Intraperitoneal injection; once daily for 2 days
Result:	Showed anti-tumor efficacy in both ALK WT and F1174L mutant orthotopic xenograft mouse models of NB.

REFERENCES

- [1]. Ozates NP, et al. Effects of rapamycin and AZD3463 combination on apoptosis, autophagy, and cell cycle for resistance control in breast cancer. *Life Sci.* 2021 Jan 1;264:118643.
- [2]. Yongfeng Wang, et al. Novel ALK inhibitor AZD3463 inhibits neuroblastoma growth by overcoming crizotinib resistance and inducing apoptosis. *Sci Rep.* 2016; 6: 19423.
- [3]. Sausan A. Moharram, et al. The ALK inhibitor AZD3463 effectively inhibits growth of sorafenib-resistant acute myeloid leukemia. *Blood Cancer J.* 2019 Feb; 9(2): 5.

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

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