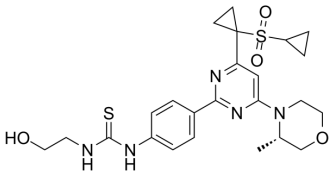
AZD3147

Cat. No.:	HY-12652
CAS No.:	1101810-02-9
Molecular Formula:	$C_{24}H_{31}N_5O_4S_2$
Molecular Weight:	517.66
Target:	mTOR
Pathway:	PI3K/Akt/mTOR
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 : 125 mg/mL (241.47 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9318 mL	9.6588 mL	19.3177 mL
	5 mM	0.3864 mL	1.9318 mL	3.8635 mL
	10 mM	0.1932 mL	0.9659 mL	1.9318 mL

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

BIOLOGICAL ACTIVITY

Description

AZD3147 is a potent, orally active, selective dual inhibitor of mTORC1 and mTORC2 with an IC_{50} value of 1.5 nM. AZD3147 also has a selective effect on PI3K[1].

IC_{50} & Target	mTORC1	mTORC2

In Vitro

AZD3147 (0-50 nM, 1 h) can alleviate fibroblast growth factor (FGF)-mediated cilia extension at concentrations above 1.5 nM in NIH3T3 cells[2].

AZD3147 inhibits cell viability of neuroblastoma cell lines Kelly and IMR-32 with the IC_{50} values of 0.88 nM and 662.4 nM, respectively[3].

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

In Vivo

The pharmacokinetic parameters of AZD3147[1].

Parameter	Mouse	Dog

CL (mL/min/kg)	78	16
Vss (L/kg)	2.3	2.2
$t_{1/2}$(h)	0.9	1.9
F%	61	73

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

REFERENCES

[1]. Kurt G Pike, et al. Discovery of AZD3147: a potent, selective dual inhibitor of mTORC1 and mTORC2. J Med Chem. 2015 Mar 12;58(5):2326-49.

[2]. Michaela Kunova Bosakova, et al. Regulation of ciliary function by fibroblast growth factor signaling identifies FGFR3-related disorders achondroplasia and thanatophoric dysplasia as ciliopathies. Hum Mol Genet. 2018 Mar 15;27(6):1093-1105.

[3]. Rebecca Waetzig, et al. Comparing mTOR inhibitor Rapamycin with Torin-2 within the RIST molecular-targeted regimen in neuroblastoma cells. Int J Med Sci. 2021 Jan 1;18(1):137-149.

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