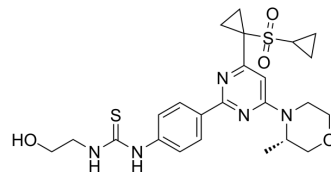


## AZD3147

Cat. No.:	HY-12652
CAS No.:	1101810-02-9
Molecular Formula:	C <sub>24</sub> H <sub>31</sub> N <sub>5</sub> O <sub>4</sub> S <sub>2</sub>
Molecular Weight:	517.66
Target:	mTOR
Pathway:	PI3K/Akt/mTOR
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (241.47 mM; Need ultrasonic)					
		Solvent Concentration	Mass			
	Preparing Stock Solutions			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 <sub>50</sub> value of 1.5 nM. AZD3147 also has a selective effect on PI3K <sup>[1]</sup> .			
IC <sub>50</sub> & Target	mTORC1	mTORC2		
In Vitro	<p>AZD3147 (0-50 nM, 1 h) can alleviate fibroblast growth factor (FGF)-mediated cilia extension at concentrations above 1.5 nM in NIH3T3 cells<sup>[2]</sup>.</p> <p>AZD3147 inhibits cell viability of neuroblastoma cell lines Kelly and IMR-32 with the IC<sub>50</sub> values of 0.88 nM and 662.4 nM, respectively<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>			
In Vivo	The pharmacokinetic parameters of AZD3147 <sup>[1]</sup> .			
	Parameter	<table border="1"> <tr> <td>Mouse</td> <td>Dog</td> </tr> </table>	Mouse	Dog
Mouse	Dog			

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CL (mL/min/kg)	78	16
V <sub>ss</sub> (L/kg)	2.3	2.2
t <sub>1/2</sub> (h)	0.9	1.9
F%	61	73

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

## REFERENCES

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

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