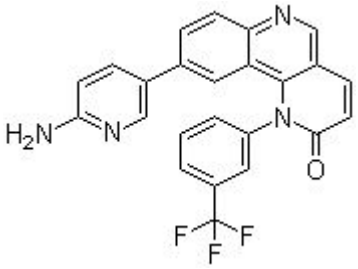
Product Introduction

Torin 2

Torin 2 is a potent and selective **mTOR** inhibitor with **IC50** of 0.25 nM; 800-fold greater selectivity for mTOR than PI3K and improved pharmacokinetic properties. Inhibition of **ATM/ATR/DNA-PK** with **EC50** of 28 nM/35 nM/118 nM, respectively.

Technical Data:

Molecular Weight (MW):	432.4	
Formula:	$C_{24}H_{15}F_3N_4O$	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 20 mg/mL	
	Water <1 mg/mL	
	Ethanol <1 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	1223001-51-1	

Biological Activity

Torin 2 has the same binding mode as PI3Kγ, V882 serves as a hinge binding point and in the inner hydrophobic pocket Y867, D841 and D964 provide three more hydrogen bonds with aminopyridine side chain analogous to Y2225, D2195 and D2357 of mTOR. [1] Torin 2 inhibits mTORC1, thus activates TFEB by promoting its nuclear translocation with EC50 of 1.666 mM. [2] Torin 2(< 50 nM) causes a significant reduction in viability of both MZ-CRC-1 and TT cells. Torin 2 (100 nM) exerts a significant reduction of

migration of both MZ-CRC-1 and TT cells. [3]

Torin 2 exhibits >95% pharmacodynamic response and half-time of 11.7 min in the mouse liver microsome stability study. Torin 2 exhibits the best bioavailability (51%), short half-life (0.72 hours) and low clearance(19.6 mL/min/kg) in male Swiss albino mice following intravenous and oral administration. [1]

Torin 2(20mg/kg) ablates MYCN tumors with reduction in MYCN protein levels and induction of apoptosis in Th-MYCN mice. [4]

References

[1] Liu Q, et al. J Med Chem, 2011, 54(5), 1473-1480.

[2] Settembre C, et al. EMBO J, 2012, 31(5), 1095-1108.

[3] Tamburrino A, et al. Clin Cancer Res, 2012, 18(13), 3532-3540.

[4] Berry T, et al. Cancer Cell, 2012, 22(1), 117-130.

[5] Liu Q, et al. Cancer Res, 2013, 73(8), 2574-2586.

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