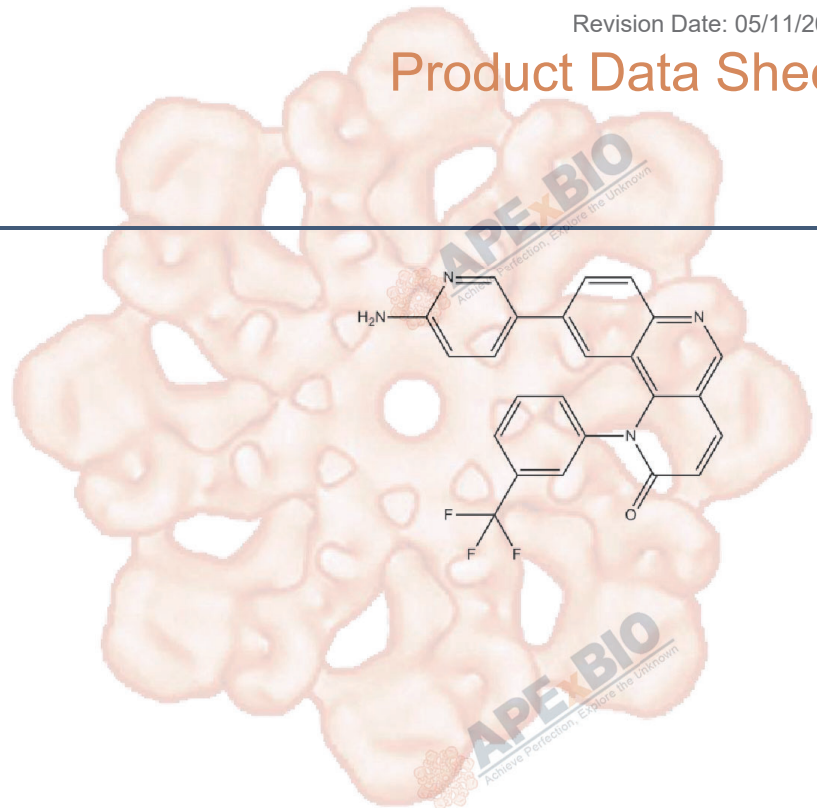


Product Data Sheet

Torin 2

Cat. No.:	B1640
CAS No.:	1223001-51-1
Formula:	C ₂₄ H ₁₅ F ₃ N ₄ O
M.Wt:	432.41
Synonyms:	
Target:	PI3K/Akt/mTOR Signaling
Pathway:	mTOR
Storage:	Store at -20°C



Solvent & Solubility

≥21.6 mg/mL in DMSO; insoluble in H₂O; insoluble in EtOH

In Vitro	Preparing Stock Solutions	Mass			
		Solvent	1mg	5mg	10mg
		Concentration			
		1 mM	2.3126 mL	11.5631 mL	23.1262 mL
		5 mM	0.4625 mL	2.3126 mL	4.6252 mL
		10 mM	0.2313 mL	1.1563 mL	2.3126 mL

Please refer to the solubility information to select the appropriate solvent

Biological Activity

Shortsummary	MTOR inhibitor, highly potent and selective	
IC ₅₀ & Target	0.25 nM (mTOR), 28 nM(EC ₅₀) (ATM), 35 nM(EC ₅₀) (ATR), 118 nM(EC ₅₀) (DNA-PK)	
In Vitro	Cell Viability Assay	
	Cell Line:	Human medullary thyroid carcinoma (MTC) cell lines (MZ-CRC-1 and TT cells)
	Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
	Reacting conditions:	50, 100 nM; 3 days or 5 days;

	Applications:	Torin2 exhibited a 0.25 nM EC50 for inhibiting cellular mTOR activity while maintaining 800-fold cellular selectivity over inhibition of PI3K and most other protein kinases [1]. Moreover, Torin2 induced a significant reduction in viability and migration of both MZ-CRC-1 and TT cells [2].
In Vivo	Animal experiment	
	Animal models:	Male C57BL/6 mice model; female nude mice model
	Dosage form:	20 mg/kg; oral gavage; for 6 hours; or 2 mg/kg, intraperitoneal injection, twice weekly for 5 weeks
	Applications:	Torin2 (20 mg/kg) showed good bioavailability and exposure and maintained strong inhibition of mTOR activity in lung and liver to at least 6 hours [1]. Moreover, the combination of Torin2 and cisplatin synergistically inhibited tumor growth in nude mice [3].
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Tariqul Islam AFM, Scavello M, et al. "Caffeine inhibits PI3K and mTORC2 in Dictyostelium and differentially affects multiple other cAMP chemoattractant signaling effectors." Mol Cell Biochem. 2019 Jul;457(1-2):157-168.PMID:30879206

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References

1. Liu, Q., Wang, J., Kang, S. A., Thoreen, C. C., Hur, W., Ahmed, T., Sabatini, D. M. and Gray, N. S. (2011) Discovery of 9-(6-aminopyridin-3-yl)-1-(3-(trifluoromethyl)phenyl)benzo[h][1,6]naphthyridin-2(1H)-one (Torin2) as a potent, selective, and orally available mammalian target of rapamycin (mTOR) inhibitor for treatment of cancer. J Med Chem. 54, 1473-1480
2. Tamburrino, A., Molinolo, A. A., Salerno, P., Chernock, R. D., Raffeld, M., Xi, L., Gutkind, J. S., Moley, J. F., Wells, S. A., Jr. and Santoro, M. (2012) Activation of the mTOR pathway in primary medullary thyroid carcinoma and lymph node metastases. Clin Cancer Res. 18, 3532-3540
3. Hussain, A. R., Al-Romaizan, M., Ahmed, M., Thangavel, S., Al-Dayel, F., Beg, S., Uddin, S., Siraj, A. K. and Al-Kuraya, K. S. (2015) Dual Targeting of mTOR Activity with Torin2 Potentiates Anticancer Effects of Cisplatin in Epithelial Ovarian Cancer. Mol Med. 21, 466-478

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage

temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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