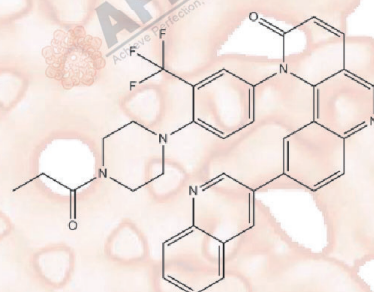


# Product Data Sheet

## Torin 1

<b>Cat. No.:</b>	A8312
<b>CAS No.:</b>	1222998-36-8
<b>Formula:</b>	C35H28F3N5O2
<b>M.Wt:</b>	607.64
<b>Synonyms:</b>	Torin1;Torin-1
<b>Target:</b>	mTOR
<b>Pathway:</b>	PI3K/Akt/mTOR Signaling
<b>Storage:</b>	Desiccate at -20° C



## Solvent & Solubility

insoluble in DMSO; insoluble in H2O;  $\geq 2.42$  mg/mL in EtOH with gentle warming and ultrasonic

In Vitro

	Solvent	Mass Concentration	1mg	5mg	10mg
Preparing Stock Solutions		1 mM	1.6457 mL	8.2286 mL	16.4571 mL
		5 mM	0.3291 mL	1.6457 mL	3.2914 mL
		10 mM	0.1646 mL	0.8229 mL	1.6457 mL

Please refer to the solubility information to select the appropriate solvent

## Biological Activity

Shortsummary

MTOR inhibitor,potent and selective

IC<sub>50</sub> & Target

2-10 nM (mTOR)

In Vitro

### Cell Viability Assay

Cell Line: MEFs

Preparation method: Limited solubility. 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: 4 days; 1-6 h

In Vivo	Applications:	250 nM Torin1 fully inhibits cell proliferation and induces a G1/S cell cycle arrest. Furthermore, 250 nM Torin1 decreases cell size to a larger degree than 50 nM rapamycin. In addition, Torin1 disrupts mTORC1-dependent phenotypes more Completely than rapamycin.
	<b>Animal experiment</b>	
	Animal models:	U87-MG glioblastoma mice xenografts
	Dosage form:	Once daily IP dosing of 20 mg/kg
	Applications:	Torin1 treatment for 10 consecutive days leads to a greater than 99% inhibition of tumor growth. The tumor continues to grow after halt of the treatment, indicating that Torin1 is primarily cytostatic and that a substantial number of tumor cells are still viable during treatment.
	Preparation method:	Dissolved at 25 mg/mL in 100% N-methyl-2-pyrrolidone
	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. Rodríguez-Sánchez I, Schafer XL, et al. "The Human Cytomegalovirus UL38 protein drives mTOR-independent metabolic flux reprogramming by inhibiting TSC2." PLoS Pathog. 2019 Jan 24;15(1):e1007569.PMID:30677091
2. Aline Pfefferle, Benedikt Jacobs, et al. "Intra-lineage Plasticity and Functional Reprogramming Maintain Natural Killer Cell Repertoire Diversity." bioRxiv. 2019 January 09.PMID:30530705
3. Zhang Q, Presswalla F, et al. "A platform for assessing outer segment fate in primary human fetal RPE cultures." Exp Eye Res. 2018 Oct 15;178:212-222.PMID:30336126
4. Admasu TD, Chaithanya Batchu K, et al. "Drug Synergy Slows Aging and Improves Healthspan through IGF and SREBP Lipid Signaling." Dev Cell. 2018 Oct 8;47(1):67-79.e5.PMID:30269951
5. Wang K, Zhang T, et al."Identification of ANXA2 (annexin A2) as a specific bleomycin target to induce pulmonary fibrosis by impeding TFEB-mediated autophagic flux." Autophagy.2018;14(2):269-282.PMID:29172997

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## References

1. Thoreen CC, Kang SA, Chang JW et al. An ATP-competitive mammalian target of rapamycin inhibitor reveals rapamycin-resistant functions of mTORC1. J Biol Chem. 2009 Mar 20;284(12):8023-32.
2. Liu Q, Chang JW, Wang J et al. Discovery of 1-(4-(4-propionylpiperazin-1-yl)-3-(trifluoromethyl)phenyl)-9-(quinolin-3-yl)benz o[h][1,6]naphthyridin-2(1H)-one as a highly potent, selective mammalian target of rapamycin (mTOR) inhibitor for the treatment of cancer. J Med Chem. 2010 Oct 14;53(19):7146-55.

## 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 APExBIO 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.*

**APExBIO Technology**

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