

Small Molecules

Torin 2

mTOR pathway inhibitor; inhibits mTOR

Catalog #100-0259
100-0260

5 mg
10 mg



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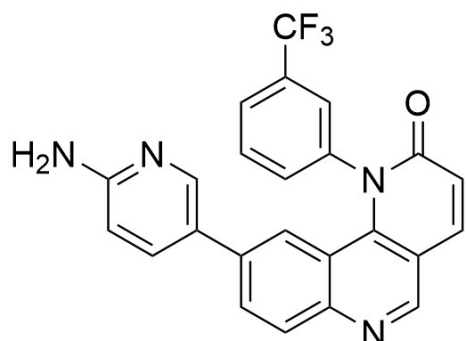
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

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Product Description

Torin 2 is a potent and selective ATP-competitive inhibitor against mTOR ($EC_{50} = 0.25$ nM), a key regulator of cell growth, survival, and autophagy (Liu et al.; Petherick et al.).

Molecular Name:	Torin 2
Alternative Names:	Not applicable
CAS Number:	1223001-51-1
Chemical Formula:	$C_{24}H_{15}F_3N_4O$
Molecular Weight:	432.4 g/mol
Purity:	≥ 98%
Chemical Name:	9-(6-amino-3-pyridinyl)-1-[3-(trifluoromethyl)phenyl]-benzo[h]-1,6-naphthyridin-2(1H)-one
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at $-20^{\circ}C$ as supplied. Protect from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	<ul style="list-style-type: none">• DMSO ≤ 10 mM• DMF (dimethylformamide) ≤ 20 mM For example, to prepare a 5.0 mM stock solution in DMSO, resuspend 1 mg in 463 μ L of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at $-20^{\circ}C$. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

CANCER RESEARCH

- Inhibits proliferation of lung, breast, colorectal, and cervical cancer cell lines (Liu et al.).
- Blocks mTOR complex 1 (mTORC1)-associated cell cycle progression and induces autophagy in hepatocellular carcinoma cells (Wang et al.).

References

- Liu Q et al. (2013) Characterization of Torin2, an ATP-competitive inhibitor of mTOR, ATM, and ATR. *Cancer Res* 73(8): 2574–86.
- Petherick KJ et al. (2015) Pharmacological inhibition of ULK1 kinase blocks mammalian target of rapamycin (mTOR)-dependent autophagy. *J Biol Chem* 290(18): 11376–83.
- Wang C et al. (2015) The novel mTOR inhibitor Torin-2 induces autophagy and downregulates the expression of UHRF1 to suppress hepatocarcinoma cell growth. *Oncol Rep* 34(4): 1708–16.

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