



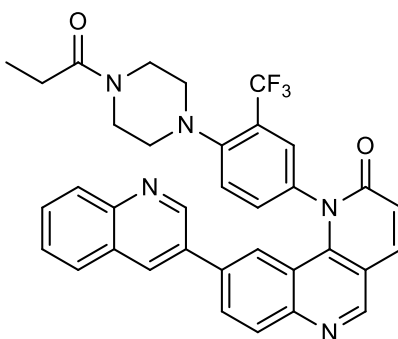
Catalog # 10-3013

Torin 1

CAS# 1222998-36-8

1-[4-[4-(1-oxopropyl)-1-piperazinyl]-3-(trifluoromethyl)phenyl]-9-(3-quinolinyl)-benzo[h]-1,6-naphthyridin-2(1H)-one

Lot # X109147



Potent and selective ATP-competitive mTOR inhibitor, IC_{50} =2 and 10 nM for mTORC1 and mTORC2 respectively.^{1,2} Active *in vivo* at inhibition of mTOR-mediated effects in mice (20 mg/kg).² Induces autophagy.³ Torin 1-mediated enhancement of TFEB-mediated autophagy alleviates neuronal death in oxidative stress-induced disease models.⁴ Downregulates NGF expression in RSC96 cells.⁵

- 1) Thoreen *et al.* (2009), An ATP-competitive mammalian target of rapamycin inhibitor reveals rapamycin-resistant functions of mTORC1; *J. Biol. Chem.*, **284** 8023
- 2) Liu *et al.* (2010), Discovery of 1-(4-(4-propionylpiperazin-1-yl)-3-(trifluoromethyl)phenyl)-9-(quinoline-3-yl)benzo[h][1,6]naphthyridine-2(1H)-one as a highly potent, selective mammalian target of rapamycin (mTOR) inhibitor for the treatment of cancer; *J. Med. Chem.*, **53** 7146
- 3) Giullitti *et al.* (2021), Anti-tumor Effect of Oleic Acid in Hepatocellular Carcinoma Cell Lines via Autophagy Reduction; *Front. Cell Dev. Biol.*, **9** 629182
- 4) Zhuang *et al.* (2020), Pharmacological enhancement of TFEB-mediated autophagy alleviated neuronal death in oxidative stress-induced Parkinson's disease models; *Cell Death Dis.*, **11** 128
- 5) Cheng *et al.* (2018), DNMT1, a Novel Regulator Mediating mTORC1/mTORC2 Pathway-induced NGF Expression in Schwann Cells; *Neurochem. Res.*, **43** 2141

PHYSICAL DATA

Molecular Weight: 607.62
Molecular Formula: C₃₅H₂₈F₃N₅O₂
Purity: 98% by HPLC
NMR: (Conforms)
Solubility: DMSO (up to 8 mg/ml with warming)
Physical Description: White or off-white solid
Storage and Stability: Store as supplied desiccated at -20°C for up to 2 years from the date of purchase.
Solutions in DMSO may be stored at -20°C for up to 2 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.

