

Product Name: Torin 1

Catalog No.: 4247

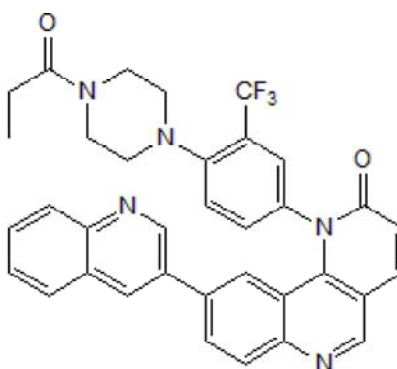
Batch No.: 5

CAS Number: 1222998-36-8

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₅H₂₈F₃N₅O₂·¼H₂O
Batch Molecular Weight: 612.12
Physical Appearance: Beige solid
Solubility: DMSO to 1 mM with gentle warming
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	68.67	4.69	11.44
Found	68.61	4.47	11.33

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Torin 1 is a potent and selective ATP-competitive mTOR inhibitor (IC₅₀ = 2 - 10 nM for mTORC1 and mTORC2). Torin 1 displays 200-fold selectivity for mTOR over DNA-PK, ATM and hVps34. In HeLa cells, Torin 1 induces autophagy. Torin 1 impairs cell growth and proliferation by suppression of the rapamycin-resistant functions of mTORC1. In human monocytes and myeloid dendritic cells, Torin 1 prevents decreases the anti-inflammatory potency of glucocorticoids. In the human endocrine cell line BON, Torin 1 increases neurotensin secretion and gene expression through MEK/ERK/c-Jun pathway activation.

Physical and Chemical Properties:

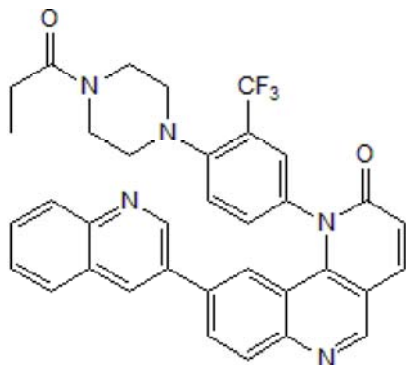
Batch Molecular Formula: C₃₅H₂₈F₃N₅O₂·¼H₂O

Batch Molecular Weight: 612.12

Physical Appearance: Beige solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Galluzzi et al (2017) Pharmacological modulation of autophagy: therapeutic potential and persisting obstacles. *Nat.Rev.Drug.Discov.* . PMID: 28529316 .

Li et al (2011) mTORC1 inhibition increases neurotensin secretion and gene expression through activation of the MEK/ERK/c-Jun pathway in the human endocrine cell line BON. *Am.J.Physiol.Cell Physiol.* **301** C213. PMID: 21508335.

Peterson et al (2011) mTOR complex 1 regulates lipin 1 localization to control the SREBP pathway. *Cell.* **146** 408. PMID: 21816276.

Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 1 mM with gentle warming

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold under license from Whitehead Institute for Biomedical Research.

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