

Product Name: Torin 2

Catalog No.: 4248

Batch No.: 3

CAS Number: 1223001-51-1

IUPAC Name: 9-(6-Amino-3-pyridinyl)-1-[3-(trifluoromethyl)phenyl]-benzo[*h*]-1,6-naphthyridin-2(1*H*)-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₄H₁₅F₃N₄O·½H₂O

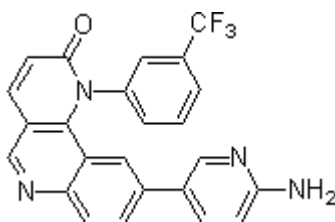
Batch Molecular Weight: 441.41

Physical Appearance: Yellow solid

Solubility: DMSO to 20 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.8% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

Carbon Hydrogen Nitrogen

Theoretical 65.31 3.65 12.69

Found 65.2 3.48 12.61

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

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Description:

Potent and selective mTOR inhibitor ($IC_{50} = 2.1$ nM). Displays 800-fold cellular selectivity for mTOR over PI3K (cellular EC_{50} values are 0.25 and 200 nM for mTOR and PI3K respectively). Activates autophagy. Orally available.

Physical and Chemical Properties:

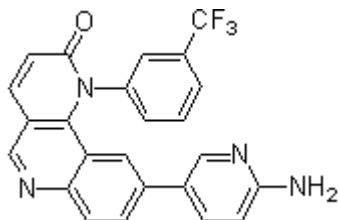
Batch Molecular Formula: $C_{24}H_{15}F_3N_4O \cdot \frac{1}{2}H_2O$

Batch Molecular Weight: 441.41

Physical Appearance: Yellow solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 20 mM

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.

References:

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

Simioni et al (2014) Activity of the novel mTOR inhibitor Torin-2 in B-precursor acute lymphoblastic leukemia and its therapeutic potential to prevent Akt reactivation. *Oncotarget* **30** 10034. PMID: 25296981.

Liu et al (2011) Discovery of 9-(6-aminopyridin-3-yl)-1-(3-(trifluoromethyl)phenyl)benzo[*h*][1,6]naphthyridin-2(1*H*)-one (Torin2) as a potent, selective, and orally available mammalian target of rapamycin (mTOR) inhibitor for treatment of cancer. *J.Med.Chem.* **54** 1473. PMID: 21322566.

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