

Product Name: KU 0060648

Catalog No.: 4840

Batch No.: 1

CAS Number: 881375-00-4

IUPAC Name: 4-Ethyl-N-[4-[2-(4-morpholinyl)-4-oxo-4H-1-benzopyran-8-yl]-1-dibenzothiényl]-1-piperazineacetamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₃H₃₄N₄O₄S·½H₂O

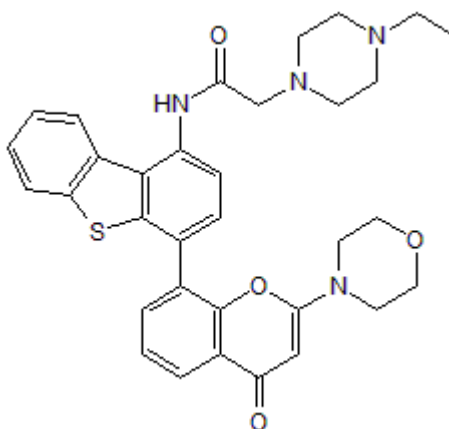
Batch Molecular Weight: 591.72

Physical Appearance: Beige solid

Solubility: 2eq.HCl to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 97.3% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	66.98	5.96	9.47
Found	67	5.89	9.37

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

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Description:

Dual PI 3-K and DNA-PK inhibitor (IC₅₀ values are <0.1, 0.5, 4 and 19 nM for PI 3-K δ , PI 3-K β , PI 3-K α and DNA-PK respectively). Inhibits proliferation of MCF7 cells in vitro and delays growth of MCF7 xenografts in mice. Also enhances CRISPR-Cas9-mediated homology-directed repair (HDR) efficiency ~2 to 4-fold, and decreases nonhomologous end-joining (NHEJ) frequency ~40%; maximum effect seen at 250 nM.

Physical and Chemical Properties:

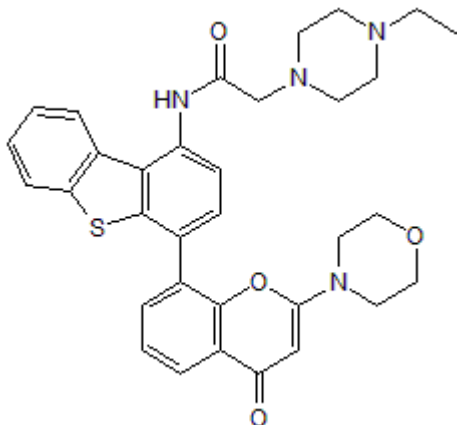
Batch Molecular Formula: C₃₃H₃₄N₄O₄S.½H₂O

Batch Molecular Weight: 591.72

Physical Appearance: Beige solid

Minimum Purity: >97%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

2eq.HCl to 100 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 Cancer Research Technology Ltd.

References:

Robert et al (2015) Pharmacological inhibition of DNA-PK stimulates Cas9-mediated genome editing. *Genome Med.* **7** 93. PMID: 26307031.

Munck et al (2012) Chemosensitization of cancer cells by KU-0060648, a dual inhibitor of DNA-PK and PI-3K. *Mol.Cancer Ther.* **11** 1789. PMID: 22576130.

Dumont et al (2009) Radiosensitising agents for the radiotherapy of cancer: novel molecularly targeted approaches. *Expert Opin.Ther.Patents* **19** 775. PMID: 19456277.

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