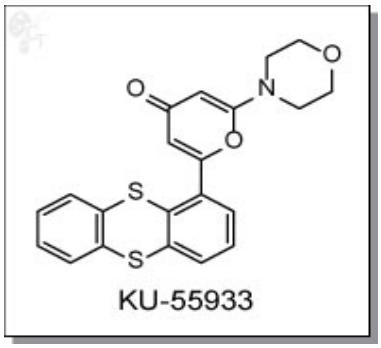
Product Specification Sheet

Product Name: KU-55933

Catalog Number: C5855



Technical information:

Chemical Formula:	$C_{21}H_{17}NO_3S_2$
CAS #:	587871-26-9
Molecular Weight:	395.49
Purity:	> 98%
Appearance:	White solid
Solubility:	Soluble in DMSO up to 100 mM
Chemical Name:	2-morpholino-6-(thianthren-1-yl)-4H-pyran-4-one
Storage:	Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.
Shelf Life:	In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.

Handling:

- To make 10 mM stock solution, add 0.253mL of DMSO for each mg of KU-55933
- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity:

KU55933 is an ATP-competitive, thioanthrene-pyranone-based inhibitor of ATM kinase with an IC50 of 13 nM and Ki of 2.2 nM and >100-fold selectivity over PI3K related kinases. [1] KU55933 inhibits cell proliferation by inducing G1 cell cycle arrest by downregulation of cyclin D1 synthesis in MDA-MB-453 breast cancer cells and PC-3 prostate cancer cells. [2] KU55933 inhibits insulin- and IGF1-stimulated Akt phosphorylation at both Ser473 and Thr308. [2] ATM cellular inhibition by KU55933 was demonstrated in additional phosphorylation targets, including p53 Ser15, H2AX Ser139, NBS1 Ser343, Chk1 Ser345, and SMC1 Ser966. [1]

KU55933 is being studied as a radiosensitizer, having been shown to sensitize HeLa cells to the effects of topoisomerase inhibitors, etoposide, doxorubicin, amsacrine, and camptothecin. [1] When in combination with rapamycin, KU55933 induces apoptosis and arrests any induced feedback activation of Akt. [2]

Reference:

1. Hickson et al., Identification and characterization of a novel and specific inhibitor of the ataxia-telangiectasia mutated kinase ATM. Cancer Res. 2004, 64(24), 9152-9159. Pubmed ID: 15604286

2. Li et al., The ATM inhibitor KU-55933 suppresses cell proliferation and induces apoptosis by blocking Akt in cancer cells with overactivated Akt. Mol. Cancer. Ther. 2010, 9(1), 113-125. Pubmed ID: 20053781

To reorder: http://www.cellagentech.com/KU-55933/

For Technical Support: technical@cellagentech.com

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