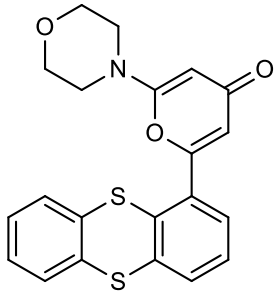
Catalog # 10-1518
KU-55933

587871-26-9

2-(4-Morpholinyl)-6-(1-thiamthrenyl)-4H-pyran-4-one

Lot # X106554



Potent and selective ATM kinase inhibitor IC_{50}s= 13, 2500, 9300, 16600, >100000 and >100000 nM for ATM, DNA-PK, mTOR, PI 3-kinase, PI 4-K and ATR respectively.[1] Decreases viability of MCF-7, A549 and HCT116 cells and decreases $p21^{CIP1}$ levels *in vitro.*[2] Disruption of ATM signaling in primary A-T fibroblasts leads to dysregulation of ribonucleotide reductase and increase resistance to inhibitors of mitochondrial respiration and translation.[3] Sensitizes radio-resistant cancer cells.[4] Provides neuroprotection against H_2O_2-induced cell damage.[5]

1) Hickson *et al*. (2004), *Identification and characterization of a novel and specific inhibitor of the ataxia-telangiectasia mutated kinase ATM*; Cancer Res., **64** 9152

2) Crescenzi *et al*. (2008), *Ataxia telangiectasia mutated and p21CIP1 modulate cell survival of drug-induced senescent tumor cells: implications for chemotherapy*; Clin. Cancer Res. **14** 1877

3) Eaton *et al*. (2007), *Ataxia-telangiectasia mutated kinase regulates ribonucleotide reductase and mitochondrial homeostasis*; J. Clin. Invest., **117** 2723

4) Zhang *et al.* (2015) *The ATM inhibitor KU55933 sensitizes radioresistant bladder cancer cells with DAB2IP gene defect*; Int. J. Radiat. Biol., **91** 368

5) Chwastek *et al.* (2017) *The ATM kinase inhibitor KU-55933 provides neuroprotection against hydrogen peroxide-induced cell damage via a yH2AX/p-p53/caspase-3-independent mechanism: Inhibition of calpain and cathepsin D;* Int. J. Biochem. Cell Biol. **87** 38

PHYSICAL DATA

Molecular Weight:	395.50
Molecular Formula:	$C_{21}H_{17}NO_3S_2$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 40 mg/ml), Ethanol (up to 20 mg/ml)
Physical Description:	Tan solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 1 month.

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