NEUROMICS

KU-55933 Data Sheet

Catalog Number:	MC11055	**Product Type:**	Small Molecule
Bio-Activity:	ATM Kinase inhibitor	**CAS #:**	587871-26-9
Research Categories:	Neuroscience, cancer	**Chemical Name:**	2-(4-Morpholinyl)-6-(1-thiamthrenyl)-4H-pyran-4-one
Solubility:	Soluble in DMSO (up to 40 mg/ml) or in Ethanol (up to 20 mg/ml).	**Molecular Formula:**	C21H17NO3S2
Purity:	> 98%	**Molecular Weight:**	395.50
Format:	Powder	**Ship Temp:**	Ambient
Storage:	Room Temperature		

Application Notes

Description/Data:
Potent and selective ATM kinase inhibitor IC50s= 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 p21CIP1 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 H2O2-induced cell damage [5].

References:

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

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5) J 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

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