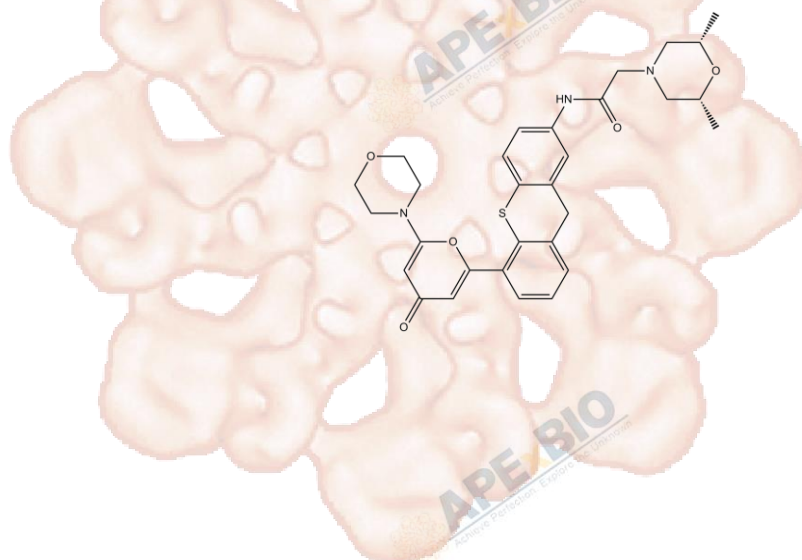


# Product Data Sheet

## KU-60019

<b>Cat. No.:</b>	A8336
<b>CAS No.:</b>	925701-49-1
<b>Formula:</b>	C30H33N3O5S
<b>M.Wt:</b>	547.68
<b>Synonyms:</b>	KU60019;KU 60019
<b>Target:</b>	DNA Damage/DNA Repair
<b>Pathway:</b>	ATM/ATR
<b>Storage:</b>	Store at -20°C



### Solvent & Solubility

≥27.4 mg/mL in DMSO; insoluble in H<sub>2</sub>O; ≥51.2 mg/mL in EtOH

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	<b>Concentration</b>			
	<b>1 mM</b>	1.8259 mL	9.1294 mL	18.2588 mL
	<b>5 mM</b>	0.3652 mL	1.8259 mL	3.6518 mL
	<b>10 mM</b>	0.1826 mL	0.9129 mL	1.8259 mL

Please refer to the solubility information to select the appropriate solvent.

### Biological Activity

Shortsummary

ATM kinase inhibitor,potent and selective

IC<sub>50</sub> & Target

6.3 nM (ATM)

In Vitro

#### Cell Viability Assay

Cell Line: U87 and U1242 cells

Preparation method: The solubility of this compound in DMSO is > 27.4 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below - 20 °C for several months.

Reacting conditions: 3 μM; 1, 3 and 5 days

	Applications:	In U87 cells, KU-60019 at 3 $\mu$ M significantly inhibited cell migration and invasion by > 70% and ~ 60%, respectively. Similarly, KU-60019 also substantially inhibited migration and invasion of human glioma U1242 cells by > 50% and ~ 60%, respectively.
In Vivo	<b>Animal experiment</b>	
	Animal models:	Athymic female mice implanted with U1242/luc-GFP cells
	Dosage form:	KU-60019 (10 $\mu$ M) delivered intratumorally at a rate of 0.5 $\mu$ L/h by osmotic pump, for 14 days
	Applications:	In athymic female mice implanted with U1242/luc-GFP cells, the combination of KU-60019 and radiation significantly inhibited tumor growth than radiation alone, which suggested that KU-60019 might radiosensitize U1242 gliomas.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

## Product Citations

1. Caster JM, Yu SK, et al. "Effect of particle size on the biodistribution, toxicity, and efficacy of drug-loaded polymeric nanoparticles in chemoradiotherapy." *Nanomedicine*. 2017 Mar 11. pii: S1549-9634(17)30044-8. PMID:28300658
2. Mignon Albertha van Vuuren. "The role of Atm in the regulation of cardiomyocyte glucose utilization under normal and insulin resistant conditions." Stellenbosch University. March 2016.

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## References

- [1]. Golding SE1, Rosenberg E, Valerie N, Hussaini I, Frigerio M, Cockcroft XF, Chong WY, Hummersone M, Rigoreau L, Menear KA, O'Connor MJ, Povirk LF, van Meter T, Valerie K. Improved ATM kinase inhibitor KU-60019 radiosensitizes glioma cells, compromises insulin, AKT and ERK prosurvival signaling, and inhibits migration and invasion. *Mol Cancer Ther*. 2009 Oct;8(10):2894-902.
- [2]. Biddlestone-Thorpe L, Sajjad M, Rosenberg E, Beckta JM, Valerie NC, Tokarz M, Adams BR, Wagner AF, Khalil A, Gilfor D, Golding SE, Deb S, Temesi DG, Lau A, O'Connor MJ, Choe KS, Parada LF, Lim SK, Mukhopadhyay ND, Valerie K. ATM kinase inhibition preferentially sensitizes p53-mutant glioma to ionizing radiation. *Clin Cancer Res*. 2013 Jun 15;19(12):3189-200.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*



**APExBIO Technology**

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