

# KU-60019

**Catalog No: tcsc0221** 

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

**Size:** 100mg

**Specifications** 

CAS No:

925701-46-8

Formula:

C<sub>30</sub>H<sub>33</sub>N<sub>3</sub>O<sub>5</sub>S

Pathway: Cell Cycle/DNA Damage;PI3K/Akt/mTOR

**Target:** ATM/ATR;ATM/ATR

### Purity / Grade:

>98%

#### Solubility:

DMSO : ≥ 30 mg/mL (54.78 mM)

## **Observed Molecular Weight:**

547.67

## **Product Description**

KU-60019 is an improved **ATM** kinase-specific inhibitor with **IC<sub>50</sub>** of 6.3 nM.

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#### IC50 & Target: IC50: 6.3 nM (ATM)<sup>[1]</sup>

In Vitro: KU-60019 is an improved analogue of KU-55933. KU-55933 has an IC<sub>50</sub> of 13 nM and K<sub>i</sub> of 2.2 nM in vitro and is highly specific for the ATM kinase using a panel of 60 protein kinases. KU-60019 is an improved inhibitor of the ATM kinase with an IC<sub>50</sub> of 6.3 nM, approximately half that of KU-55933. The IC<sub>50</sub> values for DNA-PKcs and ATR are 1.7 and >10  $\mu$ M, respectively, almost 270- and 1600-fold higher than for ATM. KU-60019 is 10-fold more effective than KU-55933 at blocking radiation-induced phosphorylation of key ATM targets in human glioma cells. In human U87 glioma cells, KU-55933 completely inhibits phosphorylation of p53 (S15) at 10  $\mu$ M but not at 3  $\mu$ M, whereas  $\gamma$ -H2AX levels are only partly reduced with 10  $\mu$ M 1 h after irradiation. By comparison, 3  $\mu$ M KU-60019 completely inhibits p53 phosphorylation and partial inhibits at 1  $\mu$ M<sup>[1]</sup>.

*In Vivo:* Despite PTEN-deficient control tumors reaching a 4-fold increase in size before PTEN wild-type controls, KU-60019-treated PTEN-deficient tumors display a statistically significant slowing in growth. This growth inhibition is especially evident at the start of the experiment (days 5-12) just after KU-60019 is administered (days 1-5)<sup>[2]</sup>.



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