

# MK-8033

**Catalog No: tcsc0560**



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg



## Specifications

**CAS No:**

1001917-37-8

**Formula:**

$C_{25}H_{21}N_5O_3S$

**Pathway:**

Protein Tyrosine Kinase/RTK

**Target:**

c-Met/HGFR

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq$  46 mg/mL (97.55 mM)

**Observed Molecular Weight:**

471.53

## Product Description

MK8033 is a novel and specific dual ATP competitive c-Met/Ron inhibitor (IC<sub>50</sub>=1 nM Wt c-Met) under investigation as a treatment for cancer.

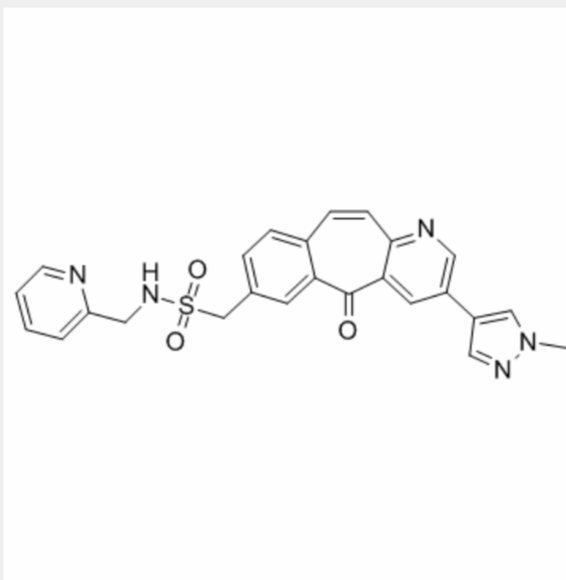
IC50 Value: 1 nM (Wt c-Met); 2.0 nM (c-Met N1100Y) [1]

Target: c-Met/Ron

in vitro: MK-8033 binds 3-fold more tightly to phosphorylated c-Met kinase domain ( $K_d = 3.2$  nM) than to its unphosphorylated counterpart ( $K_d = 10.4$  nM). Significantly, MK-8033 potently inhibits kinase activity of three oncogenic c-Met activation loop mutants, Y1230C, Y1230H, and Y1235D (IC50s ranging from 0.6 to 1 nM at 50  $\mu$ M ATP) in addition to other c-Met activating mutants N1100Y and M1250T. MK-8033 potently inhibited GTL-16 proliferation with an IC50 of  $582 \pm 30$  nM. By contrast the HCT116 cell line, which does not harbor basal c-Met activation, was not inhibited by MK-8033 (IC50 > 10000 nM) [1]. MK-8033 radiosensitized the high-c-Met-expressing EBC-1 and H1993 cells but not the low-c-Met-expressing cell lines A549 and H460. However, irradiation of A549 and H460 cells increased the expression of c-Met protein at 30 minutes after the irradiation. Subsequent targeting of this up-regulated c-Met by using MK-8033 followed by a second radiation dose reduced the clonogenic survival of both A549 and H460 cells. MK-8033 reduced the levels of radiation-induced phosphorylated (activated) c-Met in A549 cells [2].

in vivo: MK-8033 was orally dosed in GTL-16 tumor xenograft bearing mice. Mice were euthanized 1 h after dosing and tested for p-Met (Y1349) in tumors and MK-8033 concentrations in plasma. At 100 mg/kg, essentially complete inhibition of p-Met (Y1349) was achieved. An in vivo IC50 of 1.3  $\mu$ M was deduced from the relationship between plasma MK-8033 level and Met pY1349. Treatment with escalating doses of MK-8033 for 21 days lead to antitumor efficacies in a dose-dependent manner. Dosing at 3, 10, 30, and 100 mg/kg resulted in 22, 18, 57, and 86% tumor growth inhibition, respectively, relative to tumor from vehicle-treated mice.

signatures.



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