

## MRT67307

Catalog No: tcsc0249

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

**Size:** 100mg

**Specifications** 

CAS No:

1190378-57-4

Formula:

 $C_{26}H_{36}N_6O_2$ 

Pathway:

Autophagy;Autophagy;NF-ĸB

**Target:** 

ULK;Autophagy;IKK

Purity / Grade:

>98%

**Solubility:** 10 mM in DMSO

## **Observed Molecular Weight:** 464.6

## **Product Description**

MRT67307 is a dual inhibitor of the IKKE and TBK-1, which mediates the phosphorylation of interferon regulatory factor 3 (IRF3),

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with  $IC_{50}$  values of 160 and 19 nM when assayed at 0.1 mM ATP in vitro, and also targets ULK1 and ULK2 with high potency ( $IC_{50}$  values of 45 and 38 nM, respectively).

IC50 & Target: IC50: 160 nM (IKKε, ATP), 19 nM (TBK-1, ATP), 45 nM (ULK1), 38 nM (ULK2)

*In Vitro:* MRT67307 actually enhances phosphorylation in IKK $\alpha^{-/-}$  MEFs, the IL-1-stimulated phosphorylation of p105 at Ser<sup>933</sup> and RelA at both Ser<sup>468</sup> and Ser<sup>536</sup>. MRT67307 also enhances IL-1-stimulated activation of NF- $\kappa$ B-dependent gene transcription in wild-type MEFs. Treatment of macrophages with MRT67307 leads to an increase in the poly(I:C)- and LPS-stimulated phosphorylation of p105 and RelA and enhanced NF- $\kappa$ B transcriptional activity<sup>[1]</sup>. MRT67307 (10  $\mu$ M) is sufficient to reduce phospho-ATG13 to control levels, and in line with the in vitro IC<sub>50</sub> values, 10-fold less MRT68921 (1  $\mu$ M) results in a similar reduction. MRT67307 and MRT68921 inhibit ULK and block autophagy in cells<sup>[2]</sup>. MRT67307 increases IL-10 production and suppresses proinflammatory cytokine production in macrophages. MRT67307 increases (BRSKs) and only inhibits the maternal embryonic leucine zipper kinase (MELK) and AMPK itself more weakly<sup>[3]</sup>.



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