

# TCS-PIM-1-4a

Catalog No: tcsc1083

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:

327033-36-3

Formula:

 $C_{11}H_6F_3NO_2S$ 

**Pathway:** JAK/STAT Signaling

**Target:** 

Pim

## Purity / Grade:

>98%

### Solubility:

DMSO : ≥ 100 mg/mL (365.99 mM)

#### **Alternative Names:**

SMI-4a

## **Observed Molecular Weight:**

273.23

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## **Product Description**

TCS-PIM-1-4a is a Pim inhibitor that blocks mTORC1 activity via activation of AMPK; kills a wide range of both myeloid and lymphoid cell lines (with IC50 values ranging from 0.8 to 40  $\mu$ M).

IC50 value:

Target: Pim

SMI-4a a novel benzylidene-thiazolidine-2, 4-dione small molecule inhibitor of the Pim kinases, kills a wide range of both myeloid and lymphoid cell lines with precursor T-cell lymphoblastic leukemia/lymphoma (pre-T-LBL/T-ALL) being highly sensitive. Incubation of pre-T-LBL cells with SMI-4a induced G1 phase cell-cycle arrest secondary to a dose-dependent induction of p27(Kip1), apoptosis through the mitochondrial pathway, and inhibition of the mammalian target of rapamycin C1 (mTORC1) pathway based on decreases in phospho-p70 S6K and phospho-4E-BP1, 2 substrates of this enzyme. In addition, treatment of these cells with SMI-4a was found to induce phosphorylation of extracellular signal-related kinase1/2 (ERK1/2), and the combination of SMI-4a and a mitogen-activated protein kinase kinase 1/2 (MEK1/2) inhibitor was highly synergistic in killing pre-T-LBL cells. SMI-4a blocked the rapamycin-sensitive mTORC1 activity by stimulating the phosphorylation and thus activating the mTORC1 negative regulator AMP-dependent protein kinase (AMPK).



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