

## TCS-PIM-1-4a

Catalog No: tcsc1083



### Available Sizes

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**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



### Specifications

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**CAS No:**

327033-36-3

**Formula:**

$C_{11}H_6F_3NO_2S$

**Pathway:**

JAK/STAT Signaling

**Target:**

Pim

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq$  100 mg/mL (365.99 mM)

**Alternative Names:**

SMI-4a

**Observed Molecular Weight:**

273.23

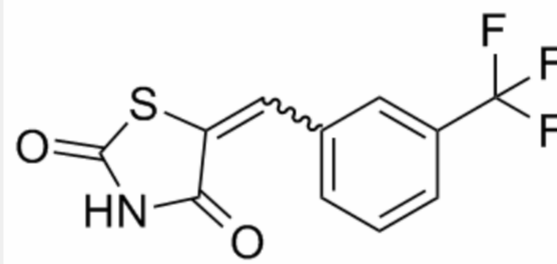
## Product Description

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).



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!