Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

mTOR-IN-1

Catalog No: tcsc1383

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Specifications

CAS No:
1207358-59-5

Formula:
$C_{25}H_{30}N_8O_2$

Pathway:
PI3K/Akt/mTOR

Target:
mTOR

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
474.56

Product Description

mTOR-IN-1 is a remarkably selective **mTOR** inhibitor with a **K_i** of 1.5 nM. mTOR-IN-1 suppresses **mTORC1** and **mTORC2** in cellular and in vivo pharmacokinetic (PK)/pharmacodynamic (PD) experiments.

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IC50 & Target: Ki: 1.5 nM (mTOR)[1]

mTORC1, mTORC2[1]

In Vitro: mTOR-IN-1 (Compound 12i) inhibits mTOR with a K_i of 1.5 nM, 500-fold selectivity over closely related PI3 kinases. mTOR-IN-1 inhibits NCI-PC3 and MCF7neo/Her2 cells proliferation with IC_{50}s of 150 nM and 57 nM, respectively[2].

In Vivo: mTOR-IN-1 (Compound 8h) has high free plasma clearance in both mice (1818 mL/min/kg) and rats (1538 mL/min/kg in rat)[1]. mTOR-IN-1 (Compounds 12i) is selected for this study due to its potency, selectivity, and favorable mouse PK profile. Plasma levels of mTOR-IN-1 6 h following oral administration in PC3 tumor-bearing mice along with the fold decreases of phosphorylated mTORC1 and -2 substrates relative to time-matched vehicle controls. mTOR-IN-1 has moderate terminal elimination half-life ($t_{1/2}$ =1.7 h for mouse(1 mg/kg, iv)). mTOR-IN-1 achieves tumor stasis at the highest 200 mg/kg/day dose examined, which appears to also be approaching the limit of tolerability for this molecule[2].