

XL388

Catalog No: tcsc1535



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

1251156-08-7

Formula:

$C_{23}H_{22}FN_3O_4S$

Pathway:

PI3K/Akt/mTOR

Target:

mTOR

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Observed Molecular Weight:

455.5

Product Description

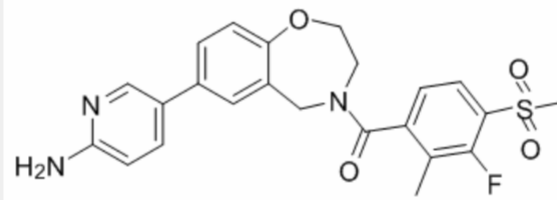
XL388 is a highly potent and ATP-competitive **mTOR** inhibitor with an **IC₅₀** of 9.9 nM. XL388 simultaneously inhibits both **mTORC1**

and **mTORC2**.

IC50 & Target: IC50: 9.9 nM (mTOR), 8.831 μ M (DNA-PK)^[1]

In Vitro: XL388 (Compound 28) also inhibits DNA-PK with an IC50 of 8.831 μ M. XL388 inhibits cellular phosphorylation of mTOR complex 1 (p-p70S6K, pS6, and p-4E-BP1) and mTOR complex 2 (pAKT (S473)) substrates. XL388 acts in an ATP-competitive manner, with a linear increase in IC₅₀ values with increasing ATP concentration^[1]. XL388 shows a dose-dependent effect in promoting MG-63 cell apoptosis. XL388 (100 nM) induces apoptosis in other two OS cell lines (U2OS and SaOs-2), but not in non-cancerous MC3T3-E1 cells. XL388 potently inhibits activation of both mTORC1 and mTORC2 in MG-63 cells. The effect of XL388 on mTORC1/2 activation is again dose-dependent. Further, mTORC1/2 activation is almost blocked in XL388 (100 nM)-treated U2OS cells, SaOs-2 cells and primary human OS cells^[2].

In Vivo: To assess the pharmacodynamic effects of XL388 (Compound 28) on the mTOR pathway signaling, athymic nude mice bearing PC-3 prostate tumors are dosed orally at 100 mg/kg of XL388. Rapamycin is also administered intraperitoneally at 5 mg/kg as a reference. Plasma and tumor samples are collected at 1, 4, 8, 16, 24, and 32 h for XL388 and at 4 h for Rapamycin after dosing and homogenized with buffer. Tumor lysates from each animal (n=5) are then pooled for each group and analyzed by immunoblot for levels of phosphorylated p70S6K, S6, 4E-BP1, and AKT. XL388 has moderate terminal elimination half-life ($t_{1/2}$ =1.35 h, 0.45 h, 6.11 h and 0.86 h for mouse (10 mg/kg, iv), rat (3 mg/kg, iv), dog (3 mg/kg, iv), monkey (3 mg/kg, iv))^[1].



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