

PIK-90

Catalog No: tcsc0172



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

677338-12-4

Formula:

$C_{18}H_{17}N_5O_3$

Pathway:

PI3K/Akt/mTOR; Cell Cycle/DNA Damage; PI3K/Akt/mTOR

Target:

DNA-PK; DNA-PK; PI3K

Purity / Grade:

>98%

Solubility:

DMSO : 1.75 mg/mL (4.98 mM; Need ultrasonic and warming)

Observed Molecular Weight:

351.36

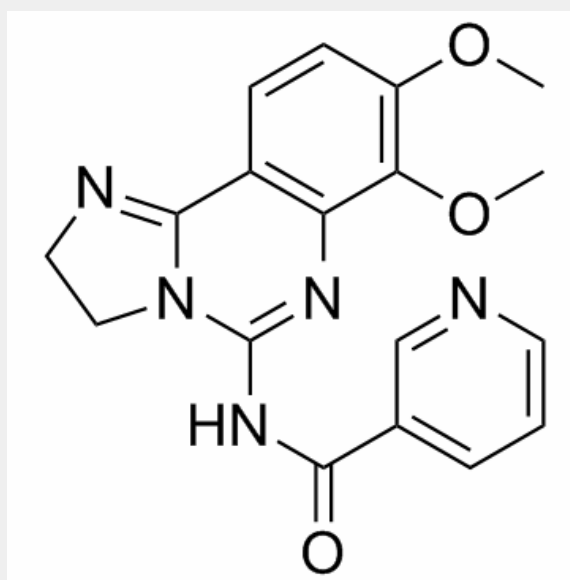
Product Description

PIK-90 is a **DNA-PK** and **PI3K** inhibitor, which inhibits **p110α**, **p110γ** and **DNA-PK** with **IC₅₀**s of 11, 18 and 13 nM, respectively.

IC50 & Target: IC50: 13 nM (DNA-PK), 11 nM (p110α), 350 nM (p110β), 58 nM (p110δ), 18 nM (p110γ), 47 nM (PI3KC2α), 64 nM (PI3KC2β), 830 nM (hsVPS34), 830 nM (PI4KIIIα), 3.1 μM (PI4KIIIβ), 15 μM (ATR), 610 nM (ATM), 1.05 μM (mTORC1)^[1]

In Vitro: PIK-90 also inhibits p110β, p110δ, PI3KC2α, PI3KC2β, hsVPS34, PI4KIIIα, PI4KIIIβ, ATR, ATM and mTORC1 with IC₅₀s of 350 nM, 58 nM, 47 nM, 64 nM, 830 nM, 830 nM, 3.1 μM, 15 μM, 610 nM and 1.05 μM, respectively^[1]. To determine the effects of PIK-90 on chronic lymphocytic leukemia (CLL) cell viability, CLL cells from different patients are incubated with various concentrations of PIK-90 (1 μM and 10 μM) for 24, 48, and 72 hours. PIK-90 reveals the strong apoptosis-inducing effects at both concentrations and at all different time points. Using a concentration of 10 μM, PIK-90 reduces the viability of CLL cells to 51.1% plus or minus 6.6% at 24 hours, whereas 1 μM PIK-90 reduces the viability to 77.8% plus or minus 6.4%^[2].

In Vivo: To test the efficacy of Roscovitine and PIK-90 in vivo, GBM43 cells are implanted s.c. into nude mice. Mice with established tumors are randomized into four treatment groups: vehicle (PBS:H₂O), Roscovitine, PIK-90, or PIK-90 plus Roscovitine. After 12 d of treatment, both Roscovitine and PIK-90 show clear single-agent efficacy, with tumor size in mice treated with Roscovitine and PIK-90 in combination significantly smaller than either vehicle or monotherapy-treated controls. Roscovitine is less effective than PIK-90 in blocking proliferation (levels of Ki-67), whereas combination therapy shows essentially additive antiproliferative effects^[3].



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