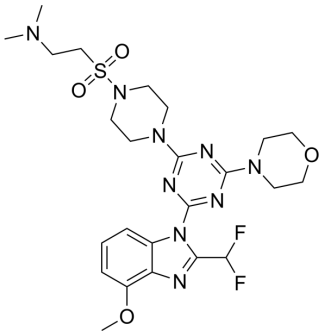
SN32976

Cat. No.:	HY-123849
CAS No.:	1246202-11-8
Molecular Formula:	$C_{24}H_{33}F_2N_9O_4S$
Molecular Weight:	581.64
Target:	PI3K; mTOR
Pathway:	PI3K/Akt/mTOR
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

SN32976 is a potent and selective class I PI3K and mTOR inhibitor with IC_{50}s of 15.1 nM, 461 nM, 110 nM, 134 nM and 194 nM for PI3Kα, PI3Kβ, PI3Kγ, PI3Kδ and mTOR, respectively. SN32976 shows high selectivity among other 442 kinases. SN32976 shows anticancer effects[1].

IC_{50} & Target

PI3Kα	PI3Kβ	PI3Kγ	PI3Kδ
15.1 nM (IC_{50})	461 nM (IC_{50})	110 nM (IC_{50})	134 nM (IC_{50})

mTOR
194 nM (IC_{50})

In Vitro

SN32976 (1-100 nM; for 1 h) inhibits both Thr308 and Ser473 pAKT expression in U-87 MG cells at concentrations as low as 10 nM[1].

The cell lines are PTEN null (U-87 MG, PC3, NZM34), H1047R PIK3CA mutant (HCT116, NZM40), E545K PIK3CA mutant (NCI-H460, MCF7) and PIK3CA amplified (FaDu). SN32976 potently inhibits cell proliferation in all cell lines, with EC_{50} values ranging from 18.5 nM in NCI-H460 cells to 1787 nM in NZM34 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	U-87 MG cells
Concentration:	1 nM, 3 nM, 10 nM, 30 nM, 100 nM
Incubation Time:	for 1 h
Result:	Inhibited both Thr308 and Ser473 pAKT expression in U-87 MG cells.

In Vivo

SN32976 (37.5-75 mg/kg; po; daily; for 21 days) inhibits tumor growth in U-87 MG tumor xenograft models[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	6-8 week old female balb/c nude or female balb/c $Rag1^{-/-}$ mice inoculated with U-87 MG cells[1]
Dosage:	37.5 mg/kg; 75 mg/kg

Administration:	po; daily; for 21 days
Result:	Inhibited tumor growth in U-87 MG tumor xenograft models.

REFERENCES

[1]. Gordon W Rewcastle, et al. Biological characterization of SN32976, a selective inhibitor of PI3K and mTOR with preferential activity to PI3Kα, in comparison to established pan PI3K inhibitors. Oncotarget. 2017 Jul 18;8(29):47725-47740.

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