Product Data Sheet

Product Name: PI3K/Akt/mTOR-IN-2
Cat. No.: GC66463

Chemical Properties

Cas. No.	2757804-89-8		
Formula	$C_{17}H_{13}F_2NO$	M.Wt	285.29
Solubility	DMSO : ≥ 100 mg/mL (350.52 mM)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	PI3K/Akt/mTOR-IN-2		

Background

PI3K/Akt/mTOR-IN-2 is a **PI3K/AKT/mTOR** pathway inhibitor. PI3K/Akt/mTOR-IN-2 possess anti-cancer effects and selectivity against MDA-MB-231 cells with **IC_{50}** value of 2.29 μM. PI3K/Akt/mTOR-IN-2 can induce cancer cell cycle arrest and **apoptosis**[1].

PI3K/Akt/mTOR-IN-2 (compound 23) (0.5 - 100 μM; 72 hours) exhibits effective anti-cancer activity with IC_{50}s of 2.29 - 24.63 μM, of which, IC_{50} in MDA-MB-231 is 2.29 μM[1].
PI3K/Akt/mTOR-IN-2 (1 μM, 2 μM and 4 μM; 24 hours) induces growth inhibition of MDA-MB-231 cells by cell cycle arrest at G0/G1[1].
PI3K/Akt/mTOR-IN-2 (1 μM, 2 μM and 4 μM; 24, 48 and 72 hours) induces apoptosis in MDA-MB-231 cells with both dose- and time-dependent manners[1].
PI3K/Akt/mTOR-IN-2 (1 μM, 2 μM and 4 μM; 48 hours) increases the expression of Bax, and decreases the expression of Bcl-2 in MDA-MB-231 cells[1].
PI3K/Akt/mTOR-IN-2 (1 μM, 2 μM and 4 μM; 24 hours) induces mitochondria-dependent apoptosis in MDA-MB-231 cells through disruption of MMP, accumulation of ROS, depletion of GSH and elevation of intracellular Ca^{2+}[1].

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Cell Proliferation Assay

Cell Line:	PC3, BGC-823, A549, MCF-7, MDA-MB-231 cells and MCF-10A cells[1]
Concentration:	0.5 - 100 μM
Incubation Time:	72 hours
Result:	Exhibited effective anti-cancer activity with IC_{50}s of 2.29 - 24.63 μM, of which, IC_{50} in MDA-MB-231 was 2.29 μM.

Cell Cycle Analysis

Cell Line:	MDA-MB-231[1]
Concentration:	1 μM, 2 μM and 4 μM
Incubation Time:	24 hours
Result:	Induced growth inhibition of MDA-MB-231 cells by cell cycle arrest at G0/G1.

Apoptosis Analysis

Cell Line:	MDA-MB-231[1]
Concentration:	1 μM, 2 μM and 4 μM
Incubation Time:	24, 48 and 72 hours
Result:	Induced apoptosis in MDA-MB-231 cells with both dose- and time-dependent manners.

Western Blot Analysis

Cell Line:	MDA-MB-231[1]

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Concentration:	1 μM, 2 μM and 4 μM
Incubation Time:	48 hours
Result:	Increased the expression of Bax, and decreased the expression of Bcl-2

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