NecroIr2

Cat. No.: HY-148366

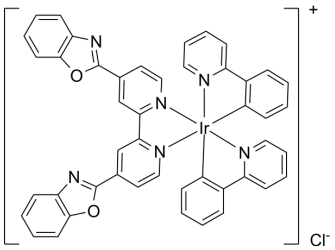
Molecular Formula: $C_{46}H_{30}ClIrN_6O_2^-$

Molecular Weight: 926.44

Target: CDK; Mixed Lineage Kinase; RIP kinase

Pathway: Cell Cycle/DNA Damage; MAPK/ERK Pathway; Apoptosis

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (53.97 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.0794 mL	5.3970 mL	10.7940 mL
	5 mM	0.2159 mL	1.0794 mL	2.1588 mL
	10 mM	0.1079 mL	0.5397 mL	1.0794 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

NecroIr2 is an iridium(III) complex, serves as necroptosis inducers in Cisplatin (HY-17394)-resistant lung cancer cells (A549R). NecroIr2 selectively accumulates in mitochondria, leading to oxidative stress and loss of mitochondrial membrane potential (MMP). NecroIr2 activates receptor-interacting serine-threonine kinase 3 (RIPK3) and mixed lineage kinase domain-like pseudokinase (MLKL), and regulates CDK4 expression[1].

IC_{50} & Target			
	CDK4	RIPK3	RIPK1

In Vitro

NecroIr2 (2 μM; 1-2 d) exerts subcellular distribution over 90% accumulated in mitochondria in non-labelled A549R and CFSE labelled L02 cells[1].
NecroIr2 (1.5 μM and 3 μM; 24 h) results ROS generation increasing and loss of mitochondrial membrane potential[1].
NecroIr2 (1.5 μM and 3 μM; 24 h) activates necroptosis proteins, increases the phosphorylation of RIPK1 and RIPK3[1].
NecroIr2 (0.75 μM and 1.5 μM; 24 h) induces necroptosis by arresting cell cycle at G0/G1[1].
NecroIr2 (0.375-1.5 μM; 24 h) inhibits A549R cells proliferation[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	A549R cells
Concentration:	1.5 μM and 3 μM
Incubation Time:	24 hours
Result:	Increased phospho-RIPK1 (p-PIPK1), total RIPK3, and phospho-RIPK3 (p-PIPK3) level.

Cell Cycle Analysis[1]

Cell Line:	A549R cells
Concentration:	0 μM, 0.75 μM and 1.5 μM
Incubation Time:	24 hours
Result:	Arrested cell cycle at G0/G1 phase in a dose-dependent manner.

Cell Proliferation Assay[1]

Cell Line:	A549R cells
Concentration:	0 μM, 0.375 μM, 0.75 μM and 1.5 μM
Incubation Time:	24 hours
Result:	Inhibits cell proliferation in a dose-dependent manner.

REFERENCES

[1]. Guan R, et al. Necroptosis-inducing iridium (III) complexes as regulators of cyclin-dependent kinases[J]. Inorganic Chemistry Frontiers, 2021, 8(7): 1788-1794.

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