NecroIr1

Cat. No.: HY-148365

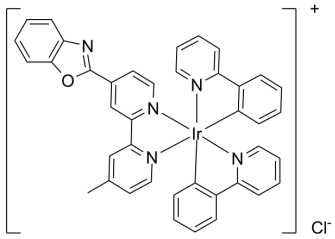
Molecular Formula: $C_{40}H_{29}ClIrN_5O^-$

Molecular Weight: 823.36

Target: Mixed Lineage Kinase; RIP kinase; CDK

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

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (121.45 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.2145 mL	6.0727 mL	12.1454 mL
	5 mM	0.2429 mL	1.2145 mL	2.4291 mL
	10 mM	0.1215 mL	0.6073 mL	1.2145 mL

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

BIOLOGICAL ACTIVITY

Description

NecroIr1 is an iridium(III) complex, serves as necroptosis inducers in Cisplatin (HY-17394)-resistant lung cancer cells (A549R). NecroIr1 selectively accumulates in mitochondria, leading to oxidative stress and loss of mitochondrial membrane potential (MMP). NecroIr1 activates receptor-interacting serine-threonine kinase 3 (RIPK3) and Mixed Lineage Kinase (MLKL), and regulates CDK4 expression[1].

IC_{50} & Target			
	CDK4	RIPK3	RIPK1

In Vitro

NecroIr1 (2 μM; 1-2 d) exerts subcellular distribution over 90% accumulated in mitochondria in non-labelled A549R and CFSElabelled L02 cells[1].
NecroIr1 (1.5 μM and 3 μM; 24 h) results ROS generation increasing and loss of mitochondrial membrane potential[1].
NecroIr1 (1.5 μM and 3 μM; 24 h) activates necroptosis proteins, increases the phosphorylation of RIPK1 and RIPK3[1].
NecroIr1 (0.75 μM and 1.5 μM; 24 h) induces necroptosis by arresting cell cycle at G0/G1[1].
NecroIr1 (0.75-3.0 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, 0.75 μM, 1.5 μM and 3.0 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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