ZC0109

Cat. No.: HY-151978

Molecular Formula: $C_{22}H_{20}BrFN_8O_4S$

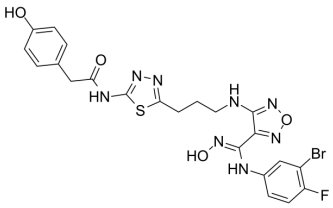
Molecular Weight: 591.41

Target: Indoleamine 2,3-Dioxygenase (IDO); Apoptosis

Pathway: Metabolic Enzyme/Protease; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (84.54 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6909 mL	8.4544 mL	16.9087 mL
	5 mM	0.3382 mL	1.6909 mL	3.3817 mL
	10 mM	0.1691 mL	0.8454 mL	1.6909 mL

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

BIOLOGICAL ACTIVITY

Description

ZC0109 is a dual inhibitor of IDO1 and thioredoxin reductase 1 (TrxR1) with IC_{50}s of 50 nM and 3.0 μM, respectively. ZC0109 induces ROS accumulation and cell cycle arrest at G1/S phase, thus leads to cancer cells apoptosis[1].

IC_{50} & Target

IC50: 50 nM (IDO1), 3.0 μM (TrxR1)[1]

In Vitro

ZC0109 (24 h) inhibits cancer cells with IC_{50}s of 3.44 μM (HCT-116), 12.4 μM (CT26), and 10.2 μM (HeLa), respectively[1].
ZC0109 (2.5-10 μM; 24 h) induces ROS accumulation in HCT-116 and HeLa cells[1].
ZC0109 (2.5-10 μM; 24 h) induces apoptosis and G1/S cell cycle arrest in cancer cell[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cycle Analysis[1]

Cell Line:	HCT-116 cells and HeLa cells
Concentration:	2.5 μM, 5 μM, and 10 μM
Incubation Time:	24 hours

	Result:	Arrested cell cycle at G1/S phase.
In Vivo	ZC0109 (15, 30, and 60 mg/kg; p.o.; once daily for 28 d) reduces Kyn/Trp metabolism in C57BL/6 mice[1]. ZC0109 (60 mg/kg; p.o.; once daily for 28 d) decreases tumor growth and increases accumulation and infiltration of T cells in CT-26 cells transplanted immunocompetent BALB/c mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Zhou J, et al. Discovery of novel hydroxyamidine based indoleamine 2,3-dioxygenase 1 (IDO1) and thioredoxin reductase 1 (TrxR1) dual inhibitors. Eur J Med Chem. 2023 Jan 5;245(Pt 1):114860.

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