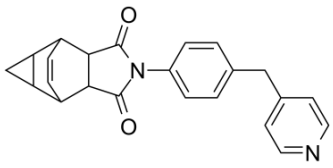
DCZ0415

Cat. No.:	HY-130603
CAS No.:	2242470-43-3
Molecular Formula:	$C_{23}H_{20}N_2O_2$
Molecular Weight:	356.42
Target:	NF-κB; Apoptosis
Pathway:	NF-κB; 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 : 62.5 mg/mL (175.35 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8057 mL	14.0284 mL	28.0568 mL
	5 mM	0.5611 mL	2.8057 mL	5.6114 mL
	10 mM	0.2806 mL	1.4028 mL	2.8057 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 6.67 mg/mL (18.71 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.84 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DCZ0415, a potent TRIP13 inhibitor, impairs nonhomologous end joining repair and inhibits NF-κB activity. DCZ0415 induces anti-myeloma activity in vitro, in vivo, and in primary cells derived from drug-resistant myeloma patients[1].

IC_{50} & Target

NF-κB

In Vitro

DCZ0415 (10, 20 μM; 72 hours) shows a significant decrease in colony formation, indicating it inhibits cell proliferation[1].
DCZ0415 (1.25-40 μM; 72 hours) induces a significant dose-dependent decrease of viability inMM cells[1].
DCZ0415 (10, 20 μM; 24-72 hours) shows a dose-dependent relationship between DCZ0415 treatment and apoptotic cell death[1].
DCZ0415 (10, 20 μM; 24 hours) induces a significant accumulation in G0/G1 MM cells[1].

DCZ0415 (10 μM; 48 hours) decreases the protein levels of phosphorylated (p)-iκBα and phosphorylated (p)-NF-κB in MM cells[1].

DCZ0415 has IC_{50}s of 1.0–10 μM in CalcuSyn in MM cell lines[1].

DCZ0415 exerts cytotoxic effects by inhibiting DNA 288 synthesis in MM cells[1].

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

Cell Proliferation Assay[1]

Cell Line:	Multiple myeloma (MM) cells
Concentration:	10, 20 μM
Incubation Time:	72 hours
Result:	Showed a significant decrease in colony formation, indicating it inhibits cell proliferation.

Cell Viability Assay[1]

Cell Line:	MM cells
Concentration:	1.25, 2.5, 5, 10, 20, 40 μM
Incubation Time:	72 hours
Result:	Induced a significant dose-dependent decrease of viability.

Apoptosis Analysis[1]

Cell Line:	MM cells
Concentration:	10, 20 μM
Incubation Time:	24, 48, 72 hours
Result:	Showed a dose-dependent relationship between DCZ0415 treatment and apoptotic cell death.

Cell Cycle Analysis[1]

Cell Line:	MM cells
Concentration:	10 and 20 μM
Incubation Time:	24 hours
Result:	Induced a significant accumulation in G0/G1 MM cells.

Western Blot Analysis[1]

Cell Line:	MM cells
Concentration:	10 μM
Incubation Time:	48 hours
Result:	Decreased the protein levels of phosphorylated (p)-iκBα and phosphorylated (p)-NF-κB in MM cells.

In Vivo

DCZ0415 (ip; 50 mg/kg/day for 14 days) significantly reduces the growth of MM cells-induced tumors in immune-deficient mice[1].

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

Animal Model:	Nude mice (6-weeks-old) with H929 775 cells[1]
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection; every day for 14 days
Result:	Significantly reduced the growth of MM cells-induced tumors.

REFERENCES

[1]. Wang Y, et al. A Small Molecule Inhibitor Targeting TRIP13 suppresses multiple myeloma progression. Cancer Res. 2019 Nov 15. pii: canres.3987.2018.

Caution: Product has not been fully validated for medical applications. For research use only.

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