PARP1/c-Met-IN-1

Cat. No.: HY-161372

CAS No.: 2944101-99-7

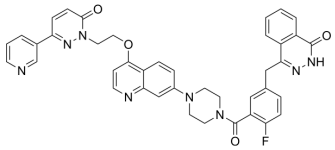
Molecular Formula: $C_{40}H_{33}FN_8O_4$

Molecular Weight: 708.74

Target: PARP; c-Met/HGFR; Apoptosis

Pathway: Cell Cycle/DNA Damage; Epigenetics; Protein Tyrosine Kinase/RTK; Apoptosis

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

PARP1/c-Met-IN-1 (Compound 16) is a selective dual inhibitor for PARP1 and c-Met, with IC_{50}s of 3.3 and 32.2 nM, respectively. PARP1/c-Met-IN-1 induces cell apoptosis and cell cycle arrest in G2/M phase in MDA-MB-231 cells. PARP1/c-Met-IN-1 exhibits antitumor activity in mice[1].

IC_{50} & Target

PARP1	c-Met
3.3 nM (IC_{50})	32.2 nM (IC_{50})

In Vitro

PARP1/c-Met-IN-1 (1 μM) improves the thermal stability of PARP1 and c-Met[1].

PARP1/c-Met-IN-1 (1 μM) inhibits the expressions of PARP1 and c-Met related proteins PAR, p-c-Met and p-AKT, affects the interactions of PARP1/c-Met, causes DNA damage[1].

PARP1/c-Met-IN-1 (0.5-1 μM) diminishes the homologous recombination (HR) function in MDA-MB-231 cells through downregulating expressions of BRCA1 and Rad51[1].

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

Western Blot Analysis[1]

Cell Line:	MDA-MB-231
Concentration:	1 μM
Incubation Time:	72 h
Result:	Enhanced the thermostability of these proteins within the temperature range of 43–55 °C. Decreased expressions of BRCA1 and Rad51.

In Vivo

PARP1/c-Met-IN-1 (12.5-100 mg/kg, i.p. for 28 days) exhibits antitumor efficacy with tumor growth inhibition (TGI) values of 49-77 % and 62-70 % in MDA-MB-231 and HCT116OR xenograft nude mice, respectively[1].

Pharmacokinetic Analysis of PARP1/c-Met-IN-1 in BALB/c mice[1]

route	Dose (mg/kg)	$T_{1/2}$ (h)	T_{max} (h)	C_{max} (ng/mL)	AUC_{0-t} (ng·h/mL)	AUC_{0-inf} (ng·h/mL)	MRT_{0-t} (h)	MRT_{0-inf} (h)	CL_{blood} (mL/h/kg)

i.p.	10	1.42	0.25	152.47	95.42	96.70	1.67	1.77	121232

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

Animal Model:	MDA-MB-231 and HCT116OR xenograft BALB/c nude mice[1]
Dosage:	12.5-50 mg/kg for MDA-MB-231 xenograft mice, 20-100 mg/kg for HCT116OR xenograft mice
Administration:	I.p., 21 days for HCT116OR xenograft mice, 28 days for MDA-MB-231 xenograft mice
Result:	Inhibited tumor growth with TGI of 49-77% in MDA-MB-231 xenograft mice. Inhibited tumor growth with TGI of 62-70% in HCT116OR xenograft mice.

REFERENCES

[1]. Sun Z, et al., Rational Design of PARP1/c-Met Dual Inhibitors for Overcoming PARP1 Inhibitor Resistance Induced by c-Met Overexpression. J Med Chem. 2024 Mar 28;67(6):4916-4935.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA