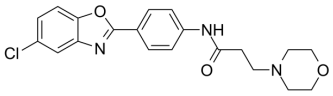
PARP-2-IN-3

Cat. No.:	HY-151625
CAS No.:	2915650-86-9
Molecular Formula:	$C_{20}H_{20}ClN_3O_3$
Molecular Weight:	385.84
Target:	PARP; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	PARP-2-IN-3 (Compound 12) is a potent PARP-2 inhibitor with an IC_{50} of 0.07 μM. PARP-2-IN-3 induces apoptosis and necrosis in cancer cells. PARP-2-IN-3 shows appropriate predicted pharmacokinetic parameters and oral bioavailability[1].
IC_{50} & Target	PARP-2 0.07 μM (IC_{50})

In Vitro

PARP-2-IN-3 (Compound 12) (24 h) shows cytotoxic activities with IC_{50}s of 6.14±0.5 μM and 6.05±0.4 μM against MDA-MB-231 and MCF-7, respectively[1].

PARP-2-IN-3 (6.05 μM; 24 h) arrests cell cycle at G2/M phase, and induces apoptosis and necrosis in MCF-7 cells[1].

PARP-2-IN-3 fills the space inside the PARP-2 pocket in a manner similar to Olaparib (HY-10162)[1].

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

Cell Cytotoxicity Assay[1]

Cell Line:	MDA-MB-231 and MCF-7
Concentration:	
Incubation Time:	24 h
Result:	Displayed remarkable cytotoxic activities with IC_{50}s of 6.14±0.5 μM and 6.05±0.4 μM against MDA-MB-231 and MCF-7, respectively.

Cell Cycle Analysis[1]

Cell Line:	MCF-7
Concentration:	6.05 μM
Incubation Time:	24 h
Result:	The percentage of cells in pre-G1 phase increased from 1.85% to 33.47%, while in G2/M phase increased from 11.84% to 32.04%. The percentage of cells in S phase slightly decreased from 29.95% to 26.18% and in G0/G1 phase decreased from 58.21% to 41.78%.

Apoptosis Analysis[1]

Cell Line:	MCF-7
Concentration:	6.05 μM
Incubation Time:	24 h
Result:	Induced an early apoptotic effect 22.52% and late apoptotic effect 3.72% in comparison to the untreated negative control MCF-7 cells which induced an early and late apoptotic effect 0.37% and 0.33%, respectively.

REFERENCES

[1]. El-Ghobashy NM, et al. Synthesis, biological evaluation, and molecular modeling studies of new benzoxazole derivatives as PARP-2 inhibitors targeting breast cancer. Sci Rep. 2022 Sep 28;12(1):16246.

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

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