Anticancer agent 43

Cat. No.: HY-146548

CAS No.: 2470015-35-9

Molecular Formula: $C_{14}H_9FN_2O_3S_2$

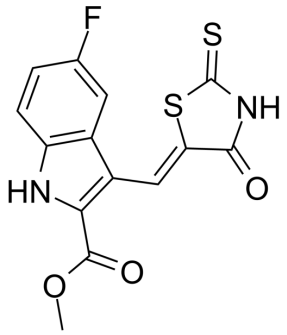
Molecular Weight: 336.36

Target: Apoptosis; Bcl-2 Family; Caspase; PARP

Pathway: Apoptosis; Cell Cycle/DNA Damage; Epigenetics

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 : 125 mg/mL (371.63 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9730 mL	14.8650 mL	29.7301 mL
	5 mM	0.5946 mL	2.9730 mL	5.9460 mL
	10 mM	0.2973 mL	1.4865 mL	2.9730 mL

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

BIOLOGICAL ACTIVITY

Description

Anticancer Agent 43 is a potent anticancer agent. Anticancer Agent 43 induces apoptosis by caspase 3, PARP1, and Bax dependent mechanisms. Anticancer Agent 43 induces DNA damage[1].

IC_{50} & Target			
	Caspase 3	PARP1	Bax

In Vitro

Anticancer agent 43 (compound 3a) shows selectivity toward human tumor cells (SI_{50}=28.94)[1].
Anticancer agent 43 (45 μM, 24 h) induces apoptosis via caspase 3, PARP1 and Bax dependent pathways in HepG2 cells[1].
Anticancer agent 43 (45 μM, 24 h) shows no effect on the transition of G1/S phases in HepG2 cells[1].
Anticancer agent 43 (0.7, 45, 55 μM) induces DNA damage in HCT116 cells (Tail DNA=16.1%, OTM=3.7), MCF-7 cells, HepG2 cells (Tail DNA=26.2%, OTM=13.2), Balb/c 3T3 cells (Tail DNA = 8.4%, OTM = 3.5)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	HepG2, MCF-7, HCT116, HeLa, A549, WM793, THP-1, HaCaT, Balb/c3T3 cells

Concentration:	0, 1, 10, 100 μM
Incubation Time:	72 h
Result:	Showed cytotoxic action with GI_{50}s of 12.1, 0.7, 0.8, 49.3, 9.7 μM for for HepG2, MCF-7, HCT116, HeLa, A549 cells, low toxicity towards WM793, THP-1, HaCaT, Balb/c 3T3 cells with GI_{50}s of 80.4, 62.4,98.3,40.8 μM , respectively.

Apoptosis Analysis[1]

Cell Line:	HepG2 cells
Concentration:	45 μM
Incubation Time:	24 h
Result:	Induced apoptosis in HepG2 cells via caspase 3, PARP1 and Bax dependent pathways.

Western Blot Analysis[1]

Cell Line:	HCT116, MCF-7 cells
Concentration:	0.7 μM
Incubation Time:	24 h
Result:	Decreased the expression of Cdk2 protein in HCT116 and MCF-7 cells.

Cell Cycle Analysis[1]

Cell Line:	HepG2 cells
Concentration:	45 μM
Incubation Time:	24 h
Result:	Showed no effect on the transition of G1/S phases in HepG2 cells.

REFERENCES

[1]. Kryshchyshyn-Dylevych A, et al. Synthesis of novel indole-thiazolidinone hybrid structures as promising scaffold with anticancer potential. Bioorg Med Chem. 2021; 50:116453.

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