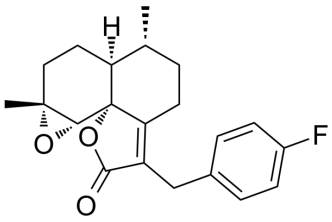
GRP78-IN-1

Cat. No.:	HY-145857
Molecular Formula:	$C_{21}H_{23}FO_3$
Molecular Weight:	342.4
Target:	HSP; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	GRP78-IN-1 exhibits several interactions with GRP78 residues with binding energy of -8.07 kcal/mol. GRP78-IN-1 shows the potent cytotoxic, anti-proliferative in cancer cells. GRP78-IN-1 exhibits promising apoptosis in breast cancer cells and wound healing properties[1].
IC_{50} & Target	Grp78

In Vitro

GRP78-IN-1 (compound 3i) (0.01, 0.1, 1, 10, 100 μM; 48 h) shows the most potent cytotoxic effect (IC_{50}s of 2.06, 12.57, 9, 18, 4.9, 2.19, 62.48 μM in MCF-1, PANC-1, HCT-116, PC-3, A549, MDA-MB-231 and FR-2 cells, respectively)[1].

GRP78-IN-1 (1, 2, 4, 6 μM) shows a steady increase in the expression of pro-apoptotic proteins viz. Par-4, apoptotic cascade in BAX and cleaved caspase 9 cells[1].

GRP78-IN-1 (1, 2, 4, 6 μM; 48 h) inhibits the motility of MCF-7 and A549 cells in a dose-dependent manner[1].

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

Cell Cytotoxicity Assay[1]

Cell Line:	MCF-1, MDA-MB-231, PANC-1, HCT-116, PC-3, A549, FR-2cells
Concentration:	0.01, 0.1, 1, 10, 100 μM
Incubation Time:	48 h
Result:	Showed the most promising cytotoxic effect (IC_{50}s is 2.06, 12.57, 9, 18, 4.9, 2.19, 62.48 μM in MCF-1, PANC-1, HCT-116, PC-3, A549, MDA-MB-231 and FR-2 cells, respectively).

Western Blot Analysis[1]

Cell Line:	BCL-2, BAX, cleaved caspase 9, MCF-7, A549 cells
Concentration:	1, 2, 4, 6 μM
Incubation Time:	
Result:	Showed a steady increase in the expression of pro-apoptotic proteins viz. Par-4, apoptotic cascade in BAX and cleaved caspase 9 cells.

REFERENCES

[1]. Rasool JU, et al. Palladium catalyzed migratory heck coupling of arteannuin B and boronic acids: An approach towards the synthesis of antiproliferative agents in breast and lung cancer cells. Bioorg Chem. 2022, 122:105694.

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