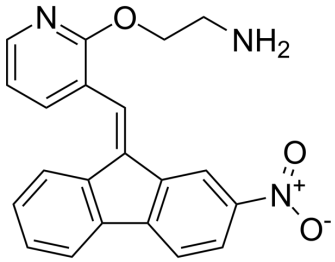
CYD-4-61

Cat. No.:	HY-148368
CAS No.:	1425944-33-7
Molecular Formula:	$C_{21}H_{17}N_3O_3$
Molecular Weight:	359.38
Target:	Bcl-2 Family; Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	CYD-4-61 is a novel Bax activator used for breast cancer research. CYD-4-61 inhibits triple-negative breast cancer MDA-MB-231 and ER-positive breast cancer MCF-7 cell lines proliferation. CYD-4-61 activates Bax protein to induce cytochrome c release and regulate apoptotic biomarkers, leading to cancer cell apoptosis[1].
IC_{50} & Target	Bax

In Vitro

CYD-4-61 (compound 49) (0-10 μM; 72 h) exhibits significantly improved antiproliferative activity with IC_{50}s of 0.07 μM against triple-negative breast cancer MDA-MB-231 and 0.06 μM against ER-positive breast cancer MCF-7 cell lines, respectively[1].

CYD-4-61 (1 μM; 72 h) induces apoptosis among MCF-7 and MDA-MB-231 cells[1].

CYD-4-61 (5 μM and 10 μM;) increases the level of cells with apoptotic bodies in MDA-MB-231 and MCF-7 cells[1].

CYD-4-61 (5 μM; 0-48 h) decreases the level of p-Bax, but increases the levle of total Bax protein, cytochrome c, and several protein markers related to apoptosis[1].

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

Cell Viability Assay[1]

Cell Line:	MCF-10A, T47D, MCF-7, MDA-MB-231, and MDA-MB-468 cells
Concentration:	0.1, 1, and 10 μM
Incubation Time:	72 hours
Result:	Inhibited triple-negative breast cancer MDA-MB-231 and ER-positive breast cancer MCF-7 cell lines proliferation and viability.

Western Blot Analysis[1]

Cell Line:	MCF-7 and MDA-MB-231 cells
Concentration:	5 μM
Incubation Time:	0, 6, 12, 24, and 48 hours
Result:	Dose-dependently led to the upregulation of cleaved PARP-1, cleaved caspase 3, and downregulation of cyclin D1.

In Vivo	CYD-4-61 (2.5 mg/kg; i.p.; once daily for 7 d) inhibits triple-negative breast tumor growth in xenograft model in mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Triple-negative breast cancer MDA-MB-231 xenograft model in mice[1]
Dosage:	2.5 mg/kg
Administration:	Intraperitoneal injection; once daily for 7 consecutive days
Result:	Significantly suppressed the growth of MDA-MB-231 tumors with an inhibition rate of 55%.

REFERENCES

[1]. Liu G, et al. Structure-activity relationship studies on Bax activator SMBA1 for the treatment of ER-positive and triple-negative breast cancer. Eur J Med Chem. 2019 Sep 15;178:589-605.

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