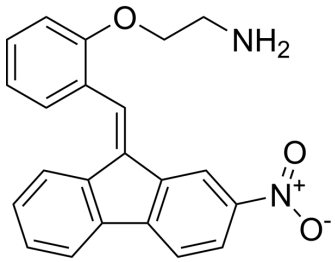
CYD-2-11

Cat. No.:	HY-120275
CAS No.:	1425944-22-4
Molecular Formula:	$C_{22}H_{18}N_2O_3$
Molecular Weight:	358.39
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-2-11 is a selective Bax agonist with a K_i value of 34.1 nM. CYD-2-11 induces cell apoptosis and shows antiproliferative activity to breast cancer MDA-MB-231 and MCF-7 cell lines with IC_{50} values of 3.22 and 3.81 μM, respectively. CYD-2-11 suppresses tumor growth in MDA-MB-231 tumor models. CYD-2-11 can be used for the research of breast and lung cancer[1] [2].

In Vitro

CYD-2-11 (0-100 μM; 48 h) shows anti-proliferation effects to breast cancer cells[1].
CYD-2-11 (5 μM; 48 h) selectively binds to Bax protein and induces apoptosis in NSCLC and SCLC cell lines[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	T47D, MCF-7, MDA-MB-231, MDA-MB-468 and MCF-10A cell lines
Concentration:	0.01, 0.1, 1, 5, 10 and 100 μM
Incubation Time:	48 hours
Result:	Inhibited cell proliferation of T47D, MCF-7, MDA-MB-231, MDA-MB-468 and MCF-10A cells with IC_{50} values of 4.37, 9.47, 3.81, 3.22 and 8.73 μM, respectively.

Apoptosis Analysis[2]

Cell Line:	SCLC and NSCLC cell lines
Concentration:	5 μM
Incubation Time:	48 hours
Result:	Induced cell apoptosis in both SCLC and NSCLC cells with a higher effect than SMBA1.

In Vivo

CYD-2-11 (20 mg/kg; i.p.; once daily for 7 days) inhibits tumor growth[1].
CYD-2-11 (40 mg/kg; i.p.; once daily for 14 days) represses lung cancer growth and overcomes rapalog resistance with the combination of RAD001 (1 mg/kg) in murine lung cancer models[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female nude mice with MDA-MB-231 tumor xenografts[1]
Dosage:	20 mg/kg
Administration:	Intraperitoneal injection; 20 mg/kg; once daily for 7 days
Result:	Exhibited a 57% inhibition rate of MDA-MB-231 tumor growth in vivo.

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.

[2]. Li R, et al. Modulation of Bax and mTOR for Cancer Therapeutics. Cancer Res. 2017 Jun 1;77(11):3001-3012. doi: 10.1158/0008-5472.CAN-16-2356. Epub 2017 Apr 5.

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