NCT-58

Cat. No.: HY-145102

CAS No.: 2411429-33-7

Molecular Formula: $C_{27}H_{34}N_2O_5$

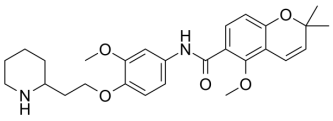
Molecular Weight: 466.57

Target: HSP; Apoptosis

Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Apoptosis

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 : 50 mg/mL (107.17 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	2.1433 mL	10.7165 mL	21.4330 mL
5 mM	0.4287 mL	2.1433 mL	4.2866 mL
10 mM	0.2143 mL	1.0717 mL	2.1433 mL

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

BIOLOGICAL ACTIVITY

Description

NCT-58 is a potent inhibitor of C-terminal HSP90. NCT-58 does not induce the heat shock response (HSR) due to its targeting of the C-terminal region and elicits anti-tumor activity via the simultaneous downregulation of HER family members as well as inhibition of Akt phosphorylation. NCT-58 kills Trastuzumab-resistant breast cancer stem-like cells. NCT-58 induces apoptosis in HER2-positive breast cancer cells[1].

IC_{50} & Target		
	HSP90	Apoptosis

In Vitro

NCT-58 treatment (0.1-20 μM; 72 hours) dose-dependently reduces cell viability in HER2-positive BT474 and SKBR3 cells[1].

NCT-58 treatment (0.1-10 μM; 72 hours) increases the number of early and late apoptotic cells in HER2-positive BT474 and SKBR3 cells[1].

NCT-58 treatment (2-10 μM; 72 hours) effectively reduced the levels of truncated p95HER2 and its phosphorylated form, as well as downregulation of Akt and phospho-Akt (Ser473) protein contents in JIMT-1 and MDA-MB-453 cells[1].

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

Cell Viability Assay[1]

Cell Line:	BT474 and SKBR3 cells
Concentration:	0, 0.1, 0.5, 1, 5, 10, 15, 20 μM
Incubation Time:	72 hours
Result:	Significantly reduced cell growth.

Apoptosis Analysis[1]

Cell Line:	BT474 and SKBR3 cells
Concentration:	0, 2, 10 μM
Incubation Time:	72 hours
Result:	Increased the number of early and late apoptotic cells.

Western Blot Analysis[1]

Cell Line:	Trastuzumab-resistant JIMT-1 and MDA-MB-453 cells
Concentration:	0, 2, 10 μM
Incubation Time:	72 hours
Result:	Effectively reduced the levels of truncated p95HER2 and its phosphorylated form, as well as downregulation of Akt and phospho-Akt (Ser473) protein contents in JIMT-1 and MDA-MB-453 cells.

In Vivo

NCT-58 (30 mg/kg; i.p.; every other day for 47 days) suppresses Trastuzumab-resistant tumor growth[1].
NCT-58 (30 mg/kg; i.p.; every other day for 47 days) causes a significant impediment of tumor growth and a marked decrease in tumor weight[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Trastuzumab-resistant xenograft model (female nude mice; 6 weeks; BALB/c)[1]
Dosage:	30 mg/kg
Administration:	i.p.; every other day for 47 days
Result:	Significantly reduced tumor growth.

REFERENCES

[1]. Park S, et al. The C-terminal HSP90 inhibitor NCT-58 kills trastuzumab-resistant breast cancer stem-like cells. Cell Death Discov. 2021;7(1):354.

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

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