Cycleanine

Cat. No.: HY-N2005

CAS No.: 518-94-5

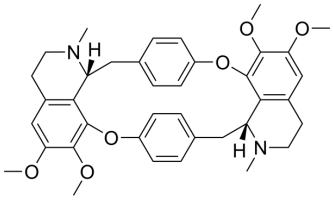
Molecular Formula: $C_{38}H_{42}N_2O_6$

Molecular Weight: 622.75

Target: Apoptosis; Calcium Channel

Pathway: Apoptosis; Membrane Transporter/Ion Channel; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (8.03 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6058 mL	8.0289 mL	16.0578 mL
	5 mM	0.3212 mL	1.6058 mL	3.2116 mL
	10 mM	---	---	---

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

BIOLOGICAL ACTIVITY

Description

Cycleanine is a potent vascular selective Calcium antagonist. Cycleanine has analgesic, muscle relaxant and anti-inflammatory activities. Cycleanine has potential for anti-ovarian cancer acting through the apoptosis pathway[1][2].

IC_{50} & Target

L-type calcium channel

In Vitro

Cycleanine inhibits L-type Ca-current (ICaL) of single rat ventricular cardiomyocytes in a voltage- and frequency-dependent manner[1].

Cycleanine shows modestly less potency against human OSE cells (normal) than the cancer cells[2].

Cycleanine (20 μM; 48 hours) exhibits cytotoxicity for Ovcar-8, A2780, Igrov-1, and Ovcar-4 cell lines with IC_{50}s ranging from 7 to 14 μM[2].

Cycleanine (20 μM; 24 hours) results in significant PARP cleavage (a marker of apoptosis)[2].

Cycleanine (20 μM; 48 hours) causes a significant increase of the population of both early and late apoptotic cells[2].

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

Cell Cytotoxicity Assay[2]

Cell Line:	Ovcar-8 cells, A2780 cells, Igrov-1 cells, Ovcar-4 cells
Concentration:	20 μM
Incubation Time:	48 hours
Result:	Exhibited cytotoxicity for Ovcar-8, A2780, Igrov-1, and Ovcar-4 cell lines with IC_{50} values of 10 μM, 7.6 μM, 14 μM, 7.2 μM, respectively.

Western Blot Analysis[2]

Cell Line:	Ovcar-8 cells
Concentration:	20 μM
Incubation Time:	24 hours
Result:	Induced 1.1-fold increase in PARP-1 cleavage compared with carboplatin.

Apoptosis Analysis[2]

Cell Line:	Ovcar-8 cells
Concentration:	20 μM
Incubation Time:	48 hours
Result:	Caused a significant increase of the population of both early and late apoptotic cells.

Cell Cycle Analysis[2]

Cell Line:	Ovcar-8 cells
Concentration:	20 μM
Incubation Time:	48 hours
Result:	Increased the percentage of Ovcar-8 cells in subG1.

In Vivo

Cycleanine inhibits the KCl-induced contraction of rabbit aortic rings with an IC_{50} of 0.8 nM[1].

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

REFERENCES

[1]. Martínez JA, et al. Calcium antagonist properties of the bisbenzylisoquinoline alkaloid cycleanine. Fundam Clin Pharmacol. 1998;12(2):182-7.

[2]. Uche FI, et al. Cytotoxicity Effects and Apoptosis Induction by Bisbenzylisoquinoline Alkaloids from Triclisia subcordata. Phytother Res. 2016 Sep;30(9):1533-9.

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