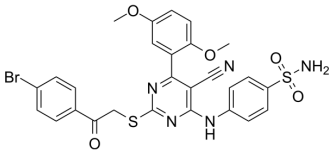
Carbonic anhydrase inhibitor 12

Cat. No.:	HY-115999
CAS No.:	2883451-38-3
Molecular Formula:	$C_{27}H_{22}BrN_5O_5S_2$
Molecular Weight:	640.53
Target:	Carbonic Anhydrase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Carbonic anhydrase inhibitor 12 is a potent CA II inhibitor, also has inhibitory activity in CA I (K_is of 1.72 and 271 nM in CA II and CA I, respectively). Carbonic anhydrase inhibitor 12 has potent anticancer activity against different cancer cell lines[1].
IC_{50} & Target	CA

In Vitro

Carbonic anhydrase inhibitor 12 (Compound 14h) (10 μM; 48 hours; single) has great influence on the specificity and the inhibitory potency against the different cancer cell lines[1].

Carbonic anhydrase inhibitor 12 (2.4 μM in MCF-7 and 2.5 μM MDA-MB-231; 48 hours) can arrest the cell cycle of MCF-7 and MDA-MB-231 cells at the G2/M phase[1].

Carbonic anhydrase inhibitor 12 (2.4 μM in MCF-7 and 2.5 μM MDA-MB-231; 48 hours) demonstrates an increase in the early apoptotic and late apoptotic phase in comparison to the control untreated cells[1].

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

Cell Proliferation Assay

Cell Line:	MCF-7, T47D, MDA-MB-231, COLO 205, HCT-116, HT29, SW-620, A549, SK-OV-3 and NCI-ADR-RES[1]
Concentration:	10 μM
Incubation Time:	48 hours
Result:	Showed a mean growth inhibitory activity of 55.12% and a broad range of antiproliferative activity against most of the tested cancer cell lines.

Cell Cycle Analysis

Cell Line:	MCF-7 and MDA-MB-231[1]
Concentration:	2.4 μM in MCF-7, 2.5 μM MDA-MB-231
Incubation Time:	48 hours
Result:	Arrested the cell cycle of MCF-7 and MDA-MB-231 cells at the G2/M phase.

Apoptosis Analysis

Cell Line:	MCF-7 and MDA-MB-231[1]
Concentration:	2.4 μM in MCF-7, 2.5 μM MDA-MB-231
Incubation Time:	48 hours
Result:	Demonstrated an increase in the early apoptotic and late apoptotic phase in comparison to the control untreated cells.

REFERENCES

[1]. Abdel-Mohsen HT, et al. Application of the dual-tail approach for the design and synthesis of novel Thiopyrimidine-Benzenesulfonamide hybrids as selective carbonic anhydrase inhibitors. Eur J Med Chem. 2022;228:114004.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA