Enpp/Carbonic anhydrase-IN-1

Cat. No.: HY-151916

CAS No.: 2883495-35-8

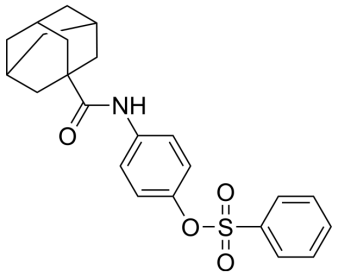
Molecular Formula: $C_{23}H_{25}NO_4S$

Molecular Weight: 411.51

Target: Apoptosis; Carbonic Anhydrase; Phosphodiesterase (PDE)

Pathway: Apoptosis; Metabolic Enzyme/Protease

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (243.01 mM; ultrasonic and warming and heat to 50°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4301 mL	12.1504 mL	24.3007 mL
	5 mM	0.4860 mL	2.4301 mL	4.8601 mL
	10 mM	0.2430 mL	1.2150 mL	2.4301 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.08 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 2.5 mg/mL (6.08 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Enpp/Carbonic anhydrase-IN-1 (compound 1e) is a potent Enpp and carbonic anhydrase inhibitor with IC_{50}s of 1.36, 1.35, 3.00, 0.88, 1.02 μM for NPP1, NPP2, NPP3, CA-II, CA-IX respectively. Enpp/Carbonic anhydrase-IN-1 shows antiproliferative activity for cancer cells and low cytotoxic against normal cells. Enpp/Carbonic anhydrase-IN-1 induces Apoptosis[1].

IC_{50} & Target

CA Ⅱ 0.88 μM (IC_{50})	CA Ⅸ 1.02 μM (IC_{50})	NPP1 1.36 μM (IC_{50})	NPP2 1.35 μM (IC_{50})
NPP3 3.00 μM (IC_{50})			

In Vitro

Enpp/Carbonic anhydrase-IN-1 (compound 1e) (0-100 μM;) inhibits some cancer cells growth with IC_{50}s of 0.32, 0.40, 0.58,

0.87, 0.40, 0.96 μM for K-562, RPMI-8226, SR, COLO 205, HT-29, SF-539 cells, respectively[1].
Enpp/Carbonic anhydrase-IN-1 (0-2 μM) shows low cytotoxic against normal breast epithelial cells (HME1) and normal skin fibroblast cells (F180) with IC_{50}s of > 50 μM[1].
Enpp/Carbonic anhydrase-IN-1 (0.32, 0.64 μM) induces apoptosis in a dose-dependent manner at K-562 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	K-562, RPMI-8226, SR, COLO 205, HT-29, SF-539 cells
Concentration:	0-100 μM
Incubation Time:	
Result:	Inhibited the cell growth with IC_{50}s of 0.32, 0.40, 0.58, 0.87, 0.40, 0.96 μM for K-562, RPMI-8226, SR, COLO 205, HT-29, SF-539 cells, respectively.

Apoptosis Analysis[1]

Cell Line:	K-562 cells
Concentration:	0.32, 0.64 μM
Incubation Time:	
Result:	Induced apoptosis in a dose-dependent manner.

REFERENCES

[1]. Afnan I.Shahin, et al. Design and synthesis of new adamantyl derivatives as promising antiproliferative agents. European Journal of Medicinal Chemistry, 2022.

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