CA/MAO-B-IN-1

Cat. No.: HY-163380

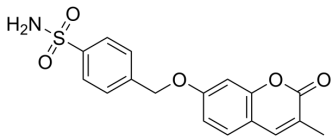
Molecular Formula: $C_{17}H_{15}NO_5S$

Molecular Weight: 345.37

Target: Carbonic Anhydrase

Pathway: Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

CA/MAO-B-IN-1 (Compound 78) is a dual inhibitor for human brain carbonic anhydrases (CA) and Monoamine Oxidase-B (MAO-B), with IC_{50}s of 8.8 and 7.0 nM, respectively. CA/MAO-B-IN-1 reveals a human oral absorption of 71.9% through in silico prediction[1].

IC_{50} & Target

hCA VB 8.8 nM (IC_{50})	hCA VA 9.6 nM (IC_{50})	hCA II 41.1 nM (IC_{50})	hCA XII 196 nM (IC_{50})
hCA I 553.1 nM (IC_{50})			

In Vitro

CA/MAO-B-IN-1 (12.5-50 μM) reverts formation of ROS, exhibits neuro- and mitochondrial protective effects against Aβ1-42 oligomer-induced neurotoxicity in cells SH-SY5Y[1].

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

Cell Viability Assay[1]

Cell Line:	SH-SY5Y
Concentration:	12.5-50 μM
Incubation Time:	24 h
Result:	Improved cell viability in SH-SY5Y cells damaged by Aβ1-42.

REFERENCES

[1]. Giovannuzzi S, et al., Dual Inhibitors of Brain Carbonic Anhydrases and Monoamine Oxidase-B Efficiently Protect against Amyloid-β-Induced Neuronal Toxicity, Oxidative Stress, and Mitochondrial Dysfunction. J Med Chem. 2024 Mar 14;67(5):4170-4193.

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

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