Nrf2-ARE/hMAO-B/QR2 modulator 1

Cat. No.: HY-144635

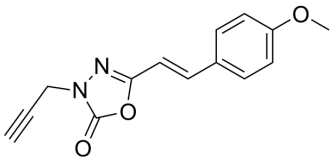
Molecular Formula: $C_{14}H_{12}N_2O_3$

Molecular Weight: 256.26

Target: Keap1-Nrf2; Monoamine Oxidase; Reactive Oxygen Species

Pathway: NF-κB; Neuronal Signaling; Immunology/Inflammation; 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 : 62.5 mg/mL (243.89 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9023 mL	19.5114 mL	39.0229 mL
	5 mM	0.7805 mL	3.9023 mL	7.8046 mL
	10 mM	0.3902 mL	1.9511 mL	3.9023 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.12 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Nrf2-ARE/hMAO-B/QR2 modulator 1 is a Resveratrol-based multitarget-directed ligands with IC_{50}s of 8.05, 9.83 and 0.57 μM for hMAO-B, NRF2 and QR2. Nrf2-ARE/hMAO-B/QR2 modulator 1 has neuroprotection, decreasing ROS production in okadaic acid-treated mice hippocampal slices[1].

IC_{50} & Target

IC_{50}: 8.05 μM (hMAO-B), 9.83 μM (NRF2), 0.57 μM (QR2)[1]

In Vitro

Nrf2-ARE/hMAO-B/QR2 modulator 1 (compound 4e) (100 μM; 24 hours) reduces the viability of SH-SY5Y cells by around 30%[1].

Nrf2-ARE/hMAO-B/QR2 modulator 1 (1 μM; 24 hours for pre-treatment, then coincubated for another 24 hours with 10 nM okadaic acid (OA)) significantly increases the cell viability of OA-treated rat primary cortical neurons to 70-80%[1].

Nrf2-ARE/hMAO-B/QR2 modulator 1 (10 μM) shows the highest expression of young cells (TuJ-1) and mature neurons (MAP-2), as well as the greatest distance of cell migration in mice NSCs which isolated from SGZ[1].

Nrf2-ARE/hMAO-B/QR2 modulator 1 (1 μM; 72 hours) confers neuroprotection and reduces cell death, decreasing ROS production in mice hippocampal slices exposed to OA[1].

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

REFERENCES

[1]. Herrera-Arozamena C, Estrada-Valencia M, López-Caballero P, et al. Resveratrol-Based MTDLs to Stimulate Defensive and Regenerative Pathways and Block Early Events in Neurodegenerative Cascades. J Med Chem. 2022;65(6):4727-4751.

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