Data Sheet (Cat.No.T214303)

TargetMol

Keap1/Nrf2/ARE activator 2

Chemical Properties

CAS No. : 3105470-83-2

Formula: C15H9BrO4

Molecular Weight: 333.14

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Keap1/Nrf2/ARE activator 2 is an activator of the Keap1/Nrf2/ARE pathway, acting as a non-competitive inhibitor of AChE with an IC50 of 14.79 μM and a Ki of 1.35 μM. It enhances Nrf2 nuclear translocation, thereby upregulating antioxidant gene expression and boosting cellular defenses against oxidative stress. In PC12 cells, Keap1/Nrf2/ARE activator 2 demonstrates significant neuroprotective effects against damage induced by H2O2 and Scopolamine (SCA). In zebrafish models, it alleviates cognitive deficits and neuroinflammation associated with SCA-induced impairments. This compound is relevant for Alzheimer's disease research.
Targets(IC50)	Cholinesterase (ChE)
In vitro	Keap1/Nrf2/ARE activator 2 (compound 32), when applied at concentrations up to 20 μM for 24 hours, shows no significant toxicity to PC12 cells. At concentrations of 5-20 μM over the same duration, it exhibits notable cytoprotective effects against H_2O_2 and SCA-induced damage in PC12 cells, leading to increased cell viability, reduced LDH and ROS release, and inhibition of apoptosis. Furthermore, at 20 μM, it induces time-dependent accumulation and nuclear translocation of Nrf2 in PC12 cells over 2-8 hours. Additionally, exposure to 20 μM for 6-24 hours upregulates various antioxidant systems in PC12 cells, including HO-1, NQO1, Trx, TrxR, and GCLC mRNA.
In vivo	The Keap1/Nrf2/ARE activator 2 (5 μM, 48 hours) enhances cognitive function in a zebrafish model induced by SCA by reducing neuroinflammation, restoring cholinergic function, and activating the Nrf2/ARE antioxidant pathway.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0017 mL	15.0087 mL	30.0174 mL
5 mM	0.6003 mL	3.0017 mL	6.0035 mL
10 mM	0.3002 mL	1.5009 mL	3.0017 mL
50 mM	0.060 mL	0.3002 mL	0.6003 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.