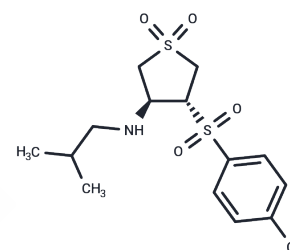


CBR-470-1

## Chemical Properties

CAS No. : 2416095-06-0  
 Formula: C<sub>14</sub>H<sub>20</sub>ClNO<sub>4</sub>S<sub>2</sub>  
 Molecular Weight: 365.9  
 Storage: Store at low temperature  
 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	CBR-470-1 is a potent inhibitor of glycolytic phosphoglycerate kinase 1 (PGK1) that activates NRF2 by increasing methylglyoxal levels. CBR-470-1 is a non-covalent Nrf2 activator with neuroprotective activity that protects SH-SY5Y neuronal cells from MPP <sup>+</sup> -induced cytotoxicity by activating the Keap1-Nrf2 cascade. cytotoxicity induced by
Targets(IC50)	Nrf2,PGK1
In vitro	In IMR32 cells, CBR-470-1, when applied for 24 hours at concentrations ranging from 0.01 to 10 μM, demonstrates an EC <sub>50</sub> of 962 nM in the ARE-LUC reporter assay[1]. Furthermore, CBR-470-1 induces a dose- and time-dependent accumulation of Nrf2 protein in IMR32 cells when administered at concentrations between 0.5 and 20 μM over a period of 1 to 24 hours[1].In SH-SY5Y cells, a 4-hour treatment with CBR-470-1 at 10 μM activates the Nrf2 signaling cascade[2].Moreover, a 2-hour exposure to CBR-470-1 at 10 μM inhibits MPP <sup>+</sup> -induced oxidative injury in SH-SY5Y neuronal cells[2].

## Solubility Information

Solubility	DMSO: 100 mg/mL (273.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (13.66 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.733 mL	13.6649 mL	27.3299 mL
5 mM	0.5466 mL	2.733 mL	5.466 mL
10 mM	0.2733 mL	1.3665 mL	2.733 mL
50 mM	0.0547 mL	0.2733 mL	0.5466 mL

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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.

### Reference

Zheng J, et, al. PGK1 inhibitor CBR-470-1 protects neuronal cells from MPP+. Aging (Albany NY). 2020 Jul 10;12(13): 13388-13399.

Bollong MJ, et, al. A metabolite-derived protein modification integrates glycolysis with KEAP1-NRF2 signalling. Nature. 2018 Oct;562(7728):600-604.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481