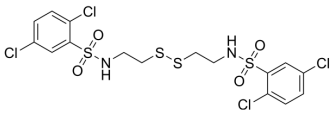
KC7F2

Cat. No.:	HY-18777
CAS No.:	927822-86-4
Molecular Formula:	$C_{16}H_{16}Cl_4N_2O_4S_4$
Molecular Weight:	570
Target:	HIF/HIF Prolyl-Hydroxylase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 32 mg/mL (56.14 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7544 mL	8.7719 mL	17.5439 mL
5 mM	0.3509 mL	1.7544 mL	3.5088 mL
10 mM	0.1754 mL	0.8772 mL	1.7544 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (4.39 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.39 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

KC7F2 is a potent hypoxia inducible factor-1 (HIF-1) pathway inhibitor with an IC_{50} of 20 μM in LN229-HRE-AP cells, and with potential as a cancer therapy agent[1].

IC_{50} & Target

IC50: 20 μM (HIF-1, LN229-HRE-AP cells)[1]

In Vitro

KC7F2 (15–25 μM; 0-72 hours) exhibits a clear dose-response cytotoxicity with an IC_{50} value of approximately 15–25 μM depending on the cell lines, and this effect is more severe under hypoxic conditions[1].
KC7F2 (0-80 μM; 6 hours) specifically reduces the protein levels of HIF-1α in a dose-dependent manner under hypoxic conditions; strongly decrease in HIF-1α levels at concentrations above 20 μM[1].

KC7F2 does not affect the rate of HIF-1α protein degradation[1].
KC7F2 inhibits HIF-1α protein synthesis but not its mRNA transcription[1].
KC7F2 represses the phosphorylation of eukaryotic initiation factor 4E binding protein 1 (4EBP1)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	MCF7 cells, LNZ308 cells, A549 cells, U251MG cells, LN229 cells
Concentration:	15–25 μM
Incubation Time:	0-72 hours
Result:	With cytotoxicity more pronounced in tumor cell lines as compared to normal cells.

Cell Viability Assay[1]

Cell Line:	LN229 cells
Concentration:	6 hours
Incubation Time:	0 μM, 5 μM,7.5 μM,10 μM,15 μM,20 μM,30 μM,40 μM,60 μM,80 μM
Result:	Decreases HIF-1α protein levels in a dose-dependent manner.

CUSTOMER VALIDATION

- J Neuroinflammation. 2019 Nov 28;16(1):240.
- Cell Death Dis. 2023 Nov 7;14(11):722.
- Acta Pharmacol Sin. 2022 Nov 10.
- Free Radic Biol Med. 2022 Aug 30;S0891-5849(22)00563-9.
- Oncogenesis. 2020 Sep 11;9(9):81.

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REFERENCES

[1]. Narita T, et al. Identification of a novel small molecule HIF-1alpha translation inhibitor. Clin Cancer Res. 2009 Oct 1;15(19):6128-6136.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA