

KC7F2

Chemical Properties

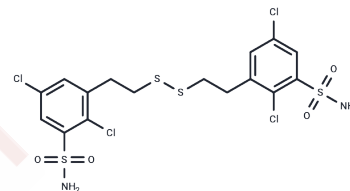
CAS No. : 927822-86-4

Formula: C₁₆H₁₆Cl₄N₂O₄S₄

Molecular Weight: 570.38

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	KC7F2 is a potent HIF-1 pathway inhibitor with potential anti-cancer activity.
Targets(IC50)	HIF/HIF Prolyl-Hydroxylase,HIF
In vitro	KC7F2 inhibits HRE-driven transcription and decreases HIF-1 α protein levels in LN229-HRE-AP cells. KC7F2 shows a dose-response cytotoxicity with IC50 of approximately 15 to 25 μ M in cancer cells MCF7, LNZ308, A549, U251 mg, and LN229. In D54 mg glioma cells, KC7F2 inhibits colony formation, especially under hypoxia. [1] In hypoxic microglial cultures, KC7F2 downregulates the expression of TfR and DMT, and reduces the HIF-1 α mediated iron accumulation. [2]
In vivo	KC7F2 significantly reduces the latent period in the pentylenetetrazole kindling rat model and increases the rate of spontaneous recurrent seizures during the chronic stage in the lithium-pilocarpine rat model. [3]
Kinase Assay	HIF transcriptional activity assay: Cells are incubated at 37 in a humidified atmosphere containing 5% CO ₂ and 21% O ₂ (normoxia) or 1% O ₂ (hypoxia) in a hypoxia workstation. The LN229-HRE-AP reporter cell line for HIF transcriptional activity is created by stably transfecting LN229 cells with the pACN188 plasmid, which contains an alkaline phosphatase gene driven by six HREs derived from the VEGF gene.
Cell Research	Cells are seeded onto 96-well plates (4 \times 10 ³ /well) and cultured under normoxic (21% O ₂) and hypoxic (1% O ₂) conditions with different concentrations of KC7F2 for 72 h or treated for various times with 20 μ M KC7F2. For proliferation analysis, cells are fixed with 50% trichloroacetic acid for 1 h at 4°C, followed by staining with 0.4% sulforhodamine B dissolved in 1% acetic acid for 30 min at room temperature. Plates are washed five times with 1% acetic acid to remove unbound dye. Bound dye is dissolved by adding 10 mM unbuffered Tris base. Cell proliferation is calculated by measuring OD values at 564 nm using a spectrophotometer.(Only for Reference)

Solubility Information

Solubility	DMSO: 250 mg/mL (438.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	--------------------------------------------------------------------------------------------------------------------------

In vivo Formulation	<p>10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (17.53 mM),Solution. 10% DMSO+90% Saline: < 10 mg/mL (17.53 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 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.</p>
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7532 mL	8.7661 mL	17.5322 mL
5 mM	0.3506 mL	1.7532 mL	3.5064 mL
10 mM	0.1753 mL	0.8766 mL	1.7532 mL
50 mM	0.0351 mL	0.1753 mL	0.3506 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.

Reference

Narita T, et al. Clin Cancer Res. 2009, 15(19), 6128-6136.
 Chen X C, Tang G X, Luo W H, et al. Monitoring and Modulating mtDNA G-Quadruplex Dynamics Reveal Its Close Relationship to Cell Glycolysis. Journal of the American Chemical Society. 2021
 Rathnasamy G, et al. Neuropharmacology. 2014, 77, 428-440.
 Yang X L, Zeng M L, Shao L, et al. NFAT5 and HIF-1 α Coordinate to Regulate NKCC1 Expression in Hippocampal Neurons after Hypoxia-Ischemia. Frontiers in Cell and Developmental Biology. 2019, 7: 339
 Liu R, Tian Y, Wang J, et al. Visible light-initiated radical 1,3-difunctionalization of β , γ -unsaturated ketones. Science Advances. 2022, 8(49): eabq8596.
 Li J, et al. Synapse. 2014, 68(9), 402-409.
 Zheng B X, Long W, Zheng W, et al. Mitochondria-Selective Dicationic Small-Molecule Ligand Targeting G-Quadruplex Structures for Human Colorectal Cancer Therapy. Journal of Medicinal Chemistry. 2024
 Yang X L, Zeng M L, Shao L, et al. NFAT5 and HIF-1 α Coordinate to Regulate NKCC1 Expression in Hippocampal Neurons after Hypoxia-Ischemia[J]. Frontiers in Cell and Developmental Biology. 2019, 7: 339.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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