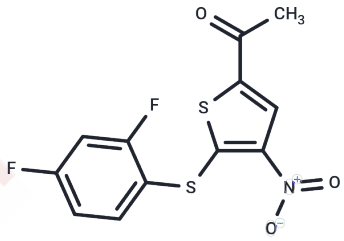
Data Sheet (Cat.No.T2424)

TargetMol

P 22077

Chemical Properties



CAS No. : 1247819-59-5

Formula: C12H7F2NO3S2

Molecular Weight: 315.32

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	P 22077 (P22077) is an inhibitor of ubiquitin-specific protease USP7 with EC50 of 8.6 μM. It also inhibits the closely related USP47.
Targets(IC50)	DUB
In vivo	P22077, administered at concentrations of 15-45 mM to cell lysates, inhibits a subset of DUBs (deubiquitinating enzymes) and prompts tumor cell death with an EC50 in the low micromolar range. Treatment with P22077 during the release from a G1/S arrest induced by hydroxyurea in U2OS cells results in a dose-dependent decrease in claspin protein levels, accompanied by reduced phosphorylation of serine 317 on Chk1. Furthermore, after P22077 exposure, quantitative mass spectrometry reveals diminished levels of E3 ubiquitin ligase components RBX1, DCAF7, DCAF11, and DNA damage-binding protein 1. While displaying negligible activity against DEN1 and SENP2 core, P22077 robustly inhibits USP7 with an IC50 of 8 μM, indicating selective inhibition towards USP7 and closely related DUB, USP47, over a range of DUBs, cysteine proteases, and other protease families in vitro.

Solubility Information

Solubility	DMSO: 55 mg/mL (174.43 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (6.34 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1714 mL	15.8569 mL	31.7138 mL
5 mM	0.6343 mL	3.1714 mL	6.3428 mL
10 mM	0.3171 mL	1.5857 mL	3.1714 mL
50 mM	0.0634 mL	0.3171 mL	0.6343 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

Tian X, et al. Assay Drug Dev Technol, 2011, 9(2), 165-173.
Chen F, Zhang W, Xie D, et al. Histone chaperone FACT represses retrotransposon MERVL and MERVL-derived cryptic promoters. Nucleic Acids Research. 2020, 48(18): 10211-10225
Altun M, et al. Chem Biol, 2011, 18(11), 1401-1412.
Wu W, Xu H, Liao C, et al. Blockade of USP14 potentiates type I interferon signaling and radiation-induced antitumor immunity via preventing IRF3 deubiquitination. Cellular Oncology. 2022: 1-15
Chen F, Zhang W, Xie D, et al. Histone chaperone FACT represses retrotransposon MERVL and MERVL-derived cryptic promoters[J. Nucleic Acids Research. 2020, 48(18): 10211-10225.
Yue X, Liu T, Wang X, et al.Pharmacological inhibition of BAP1 recruits HERC2 to competitively dissociate BRCA1-BARD1, suppresses DNA repair and sensitizes CRC to radiotherapy.Acta Pharmaceutica Sinica B.2023