

GPX4-IN-19

Chemical Properties

CAS No. : 3102894-57-2

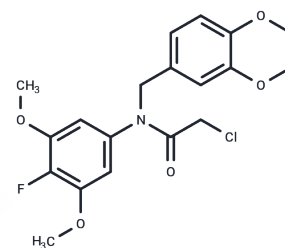
Formula: C₁₉H₁₉ClFNO₅

Molecular Weight: 395.81

Store at low temperature

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	GPX4-IN-19 is a highly effective small-molecule inhibitor of glutathione peroxidase 4 (GPX4) with an IC ₅₀ value of 0.311 μM, which exerts its pharmacological activity by covalently binding to the Sec46 active site of GPX4, thereby disrupting lipid peroxide detoxification, inducing intracellular Fe ²⁺ accumulation, elevating lipid peroxide (LPO) and reactive oxygen species (ROS) levels, triggering ferroptosis-associated DNA damage, demonstrating strong anti-proliferative effects with high ferroptosis selectivity, and providing a robust experimental tool for mechanistic and therapeutic studies in Triple-Negative Breast Cancer (TNBC).
Targets(IC ₅₀)	GPX
In vivo	Method: GPX4-IN-19 was administered intraperitoneally at 5 or 10 mg/kg every two days for 24 days in MDA-MB-231 tumor-bearing mice. Result: GPX4-IN-19 produced dose-dependent tumor growth inhibition without significant toxicity or weight loss[1].

Solubility Information

Solubility	DMSO: 40 mg/mL (101.06 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5265 mL	12.6323 mL	25.2646 mL
5 mM	0.5053 mL	2.5265 mL	5.0529 mL
10 mM	0.2526 mL	1.2632 mL	2.5265 mL
50 mM	0.0505 mL	0.2526 mL	0.5053 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

Ning M, et al. Discovery of novel benzylaniline derivatives containing chloroacetamide as GPX4 inhibitors with potential efficacy in triple-negative breast cancer. *Eur J Med Chem.* 2025 Dec 15;300:118189.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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