

DC_AC50

Chemical Properties

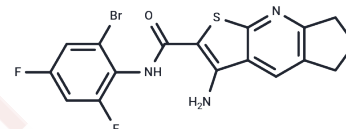
CAS No. : 497061-48-0

Formula: C17H12BrF2N3OS

Molecular Weight: 424.26

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	DC_AC50 is a dual inhibitor of Atox1 and CCS (copper chaperones), aimed at reducing or preventing acquired chemotherapy resistance by inhibiting intracellular copper chaperones. It binds to Atox1 and CCS, thereby reducing cancer cell proliferation and tumor growth.
Targets(IC50)	Apoptosis
In vitro	DC_AC50 synergised with carboplatin in combination treatment of human and canine OSA cells to reduce cancer cell viability. DC_AC50-treated cells were significantly less mitotically active, as demonstrated by decreased expression of phospho-histone H3 and cell cycle analysis. DC_AC50 also potentiated carboplatin-induced apoptosis in OSA cells and decreased clonogenic survival. Finally, DC_AC50 reduced the migratory ability of OSA cells. These results justify further investigation into inhibiting intracellular copper chaperones as a means of reducing/preventing acquired chemotherapy resistance.

Solubility Information

Solubility	DMSO: 25 mg/mL (58.93 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: 2 mg/mL (4.71 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

	1mg	5mg	10mg
1 mM	2.357 mL	11.7852 mL	23.5705 mL
5 mM	0.4714 mL	2.357 mL	4.7141 mL
10 mM	0.2357 mL	1.1785 mL	2.357 mL
50 mM	0.0471 mL	0.2357 mL	0.4714 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

Jordon M Inkol, et al. Inhibition of copper chaperones sensitizes human and canine osteosarcoma cells to carboplatin chemotherapy. *Vet Comp Oncol.* 2020 Dec;18(4):559-569.

Jing Wang, et al. Inhibition of human copper trafficking by a small molecule significantly attenuates cancer cell proliferation. *Nat Chem.* 2015 Dec;7(12):968-79.

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