

Mito-LND

Chemical Properties

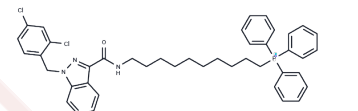
CAS No. : 2361564-49-8

Formula: C₄₃H₄₅BrCl₂N₃O₃P

Molecular Weight: 801.62

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Mito-LND (Mito-Loidamine) is an orally active and mitochondria-targeted inhibitor of oxidative phosphorylation.
Targets(IC50)	OXPHOS, Reactive Oxygen Species, Mitochondrial Metabolism, Autophagy, ROS
In vitro	Mito-LND inhibits cell growth of H2030BrM3 and A549 cells with IC50 of 0.74 μM and 0.69 μM, respectively. Mito-LND inhibits mitochondrial complex I and II activities with IC50 of 1.2 μM and 2.4 μM, respectively in H2030BrM3 cells. Mito-LND potently induces mitochondrial ROS generation in H2030BrM3 lung cancer cells. Mito-LND decreases the levels of phosphorylated AKT. Mito-LND also decreases the phosphorylation of P70S6K and other energy-sensing proteins in both the parental and metastatic lung cancer cell lines, indicating that Mito-LND specifically downregulates mTOR signaling.
In vivo	Mito-LND treatment markedly enhanced potency against both lung cancer progression and metastasis. Mito-LND also decreases the rate of growth of A549 tumor xenografts. Mito-LND treatment shows a marked decrease in lung cancer brain metastasis in NOD/SCID mice bearing H2030BrM3 cells.

Solubility Information

Solubility	DMSO: 45 mg/mL (56.14 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 (2.49 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	1.2475 mL	6.2374 mL	12.4747 mL
5 mM	0.2495 mL	1.2475 mL	2.4949 mL
10 mM	0.1247 mL	0.6237 mL	1.2475 mL
50 mM	0.0249 mL	0.1247 mL	0.2495 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

Cheng G , Zhang Q , Pan J , et al. Targeting lonidamine to mitochondria mitigates lung tumorigenesis and brain metastasis[J]. Nature Communications, 2019, 10(1).

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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