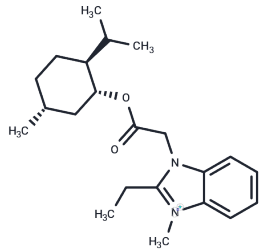
Data Sheet (Cat.No.T15373)

TargetMol

Gboxin

Chemical Properties



CAS No. : 2101315-36-8

Formula: C22H33ClN2O2

Molecular Weight: 392.96

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	Gboxin is an inhibitor of oxidative phosphorylation that targets glioblastoma,inhibits the activity of F0F1 ATP synthase, with antitumour activity.
Targets(IC50)	ATPase,OXPHOS,Mitochondrial Metabolism
In vitro	Gboxin, a small molecule that specifically inhibits the growth of primary mouse and human glioblastoma cells but not that of mouse embryonic fibroblasts or neonatal astrocytes.?Gboxin rapidly and irreversibly compromises oxygen consumption in glioblastoma cells.?Gboxin relies on its positive charge to associate with mitochondrial oxidative phosphorylation complexes in a manner that is dependent on the proton gradient of the inner mitochondrial membrane, and it inhibits the activity of F0F1 ATP synthase.?Gboxin-resistant cells require a functional mitochondrial permeability transition pore that regulates pH and thus impedes the accumulation of Gboxin in the mitochondrial matrix.?Administration of a metabolically stable Gboxin analogue inhibits glioblastoma allografts and patient-derived xenografts.?Gboxin toxicity extends to established human cancer cell lines of diverse organ origin, and shows that the increased proton gradient and pH in cancer cell mitochondria is a mode of action that can be targeted in the development of antitumour reagents.

Solubility Information

Solubility	H2O: 10 mg/mL (25.45 mM),Sonication is recommended. DMSO: 30 mg/mL (76.34 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 (5.09 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	2.5448 mL	12.7239 mL	25.4479 mL
5 mM	0.509 mL	2.5448 mL	5.0896 mL
10 mM	0.2545 mL	1.2724 mL	2.5448 mL
50 mM	0.0509 mL	0.2545 mL	0.509 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

Shi Y, et al. Gboxin is an oxidative phosphorylation inhibitor that targets glioblastoma. Nature. 2019 Mar;567 (7748):341-346.