

CMPD1

Chemical Properties

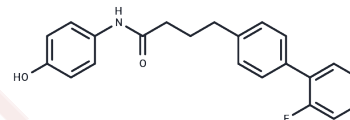
CAS No. : 41179-33-3

Formula: C₂₂H₂₀FNO₂

Molecular Weight: 349.4

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	CMPD1 is a non-ATP-competitive p38 MAPK-mediated MK2 phosphorylation inhibitor (apparent K _i (K _{iapp}): 330nM).
Targets(IC50)	MAPK
In vitro	CMPD1 exhibits selective activity within glioblastoma cells by inhibiting tubulin polymerization[3], crucial for cell division. Contrarily, it does not affect p38 MAPK-mediated phosphorylation of substrates MBP and ATF2, indicating specificity in its action. Furthermore, it induces mitotic arrest and apoptosis in U87 cells[1], highlighting its potential therapeutic implications in targeting cancer cell proliferation and survival.

Solubility Information

Solubility	DMSO: 55 mg/mL (157.41 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 (5.72 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	2.862 mL	14.3102 mL	28.6205 mL
5 mM	0.5724 mL	2.862 mL	5.7241 mL
10 mM	0.2862 mL	1.431 mL	2.862 mL
50 mM	0.0572 mL	0.2862 mL	0.5724 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

Gurgis F, et al. Cytotoxic activity of the MK2 inhibitor CMPD1 in glioblastoma cells is independent of MK2. *Cell Death Discov.* 2015 Sep 7;1:15028.

Davidson W, et al. Discovery and characterization of a substrate selective p38alpha inhibitor. *Biochemistry.* 2004 Sep 21;43(37):11658-71.

Phoa AF, et al. Pharmacology of novel small-molecule tubulin inhibitors in glioblastoma cells with enhanced EGFR signalling. *Biochem Pharmacol.* 2015 Dec 15;98(4):587-601.

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