

iMDK quarterhydrate

Chemical Properties

CAS No. :

Formula: C₂₁H₁₅FN₂O₃S

Molecular Weight: 380.91

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	iMDK quarterhydrate, a potent PI3K inhibitor, is effective in inhibiting the growth factor MDK (also known as midkine or MK) while demonstrating suppression of non-small cell lung cancer (NSCLC). In combination with a MEK inhibitor, iMDK quarterhydrate demonstrates cooperative inhibition of NSCLC without causing harm to normal cells and mice [1].
Targets(IC50)	Others,PI3K
In vitro	iMDK (50-500 nM) quarterhydrate suppressed AKT phosphorylation in a dose-dependent manner in H441 lung adenocarcinoma cells after treatment for 72 h. In contrast, iMDK quarterhydrate robustly increases p-ERK [1]. Cell Viability Assay [1] Cell Line: H441 (lung adenocarcinoma; KRAS G12V), H2009 (non-small cell carcinoma; KRAS G12A), A549 (lung carcinoma; KRAS G12S) and H520 (lung squamous cell carcinoma; KRAS WT) Concentration: iMDK (2.5 μM) quarterhydrate and PD0325901 (0.5 μM) for H441 and H2009 cells iMDK (0.125 μM) quarterhydrate and PD0325901 (0.25 μM) for H520 cells iMDK (0.25 μM) quarterhydrate and PD0325901 (0.125 μM) for A549 cells Incubation Time: 72 hours Result: iMDK quarterhydrate alone did not inhibit cell viability of A549 cells, the combinatorial treatment of iMDK quarterhydrate with PD0325901 significantly inhibited that of A549 cells compared to the single treatment of PD0325901. Western Blot Analysis [1] Cell Line: H441 lung adenocarcinoma cells Concentration: 0-500 nM Incubation Time: 72 hours Result: Suppressed AKT phosphorylation in a dose-dependent manner. ERK1/2 phosphorylation was increased.
In vivo	The combined administration of iMDK (9 mg/kg/day; intraperitoneally injected with 100 μl) and PD0325901 (5 mg/kg; orally) significantly inhibited the growth of lung tumors in female BALB/c nude mice, aged 6 weeks, harboring H441 human lung cancer xenografts. This regimen, comprising daily intraperitoneal injections of iMDK quarterhydrate and oral doses of PD0325901, notably decreased the tumor volume in a xenograft mouse model, demonstrating superior efficacy over treatments with a single compound.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6253 mL	13.1265 mL	26.2529 mL
5 mM	0.5251 mL	2.6253 mL	5.2506 mL
10 mM	0.2625 mL	1.3126 mL	2.6253 mL
50 mM	0.0525 mL	0.2625 mL	0.5251 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.

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