

QL47

Chemical Properties

CAS No. : 1469988-75-7

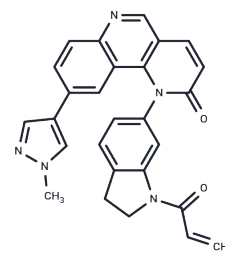
Formula: C₂₇H₂₁N₅O₂

Molecular Weight: 447.49

Store at low temperature

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	QL47 is a host-targeted small molecule antiviral agent with antiviral activity against dengue and other RNA viruses. QL47 acts as an inhibitor of viral translation and a covalent inhibitor of BTK, and can be used in the study of lymphomas.
Targets(IC50)	Anti-infection, BTK, Virus Protease
In vitro	QL47 inhibits protein neosynthesis initiated by both canonical cap-driven and noncanonical initiation strategies, likely by targeting an early step in translation elongation[2]. With EC50 values of 475 nM and 318 nM, QL47 inhibits BTK autophosphorylation on Tyr223 and phosphorylation of the downstream effector PLCγ2 (Tyr759) in cells, respectively. In Ramos cells, QL47 induces G1 cell cycle arrest and significant BTK protein degradation. Additionally, QL47 inhibits the proliferation of B-cell lymphoma cancer cell lines at submicromolar concentrations[1].

Solubility Information

Solubility	DMSO: 1 mg/mL (2.23 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2347 mL	11.1734 mL	22.3469 mL
5 mM	0.4469 mL	2.2347 mL	4.4694 mL
10 mM	0.2235 mL	1.1173 mL	2.2347 mL
50 mM	0.0447 mL	0.2235 mL	0.4469 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

- Wu H, et al. Discovery of a potent, covalent BTK inhibitor for B-cell lymphoma. *ACS Chem Biol.* 2014;9(5):1086-1091.
- de Wispelaere M, et al. A broad-spectrum antiviral molecule, QL47, selectively inhibits eukaryotic translation. *J Biol Chem.* 2020;295(6):1694-1703.
- Liang Y, et al. Structure-Activity Relationship Study of QL47: A Broad-Spectrum Antiviral Agent. *ACS Med Chem Lett.* 2017;8(3):344-349. Published 2017 Feb 3.

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