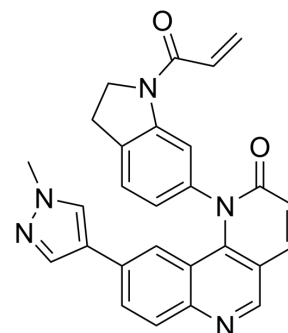


## QL47

<b>Cat. No.:</b>	HY-80003		
<b>CAS No.:</b>	1469988-75-7		
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>21</sub> N <sub>5</sub> O <sub>2</sub>		
<b>Molecular Weight:</b>	447.49		
<b>Target:</b>	Btk; Flavivirus; Dengue virus		
<b>Pathway:</b>	Protein Tyrosine Kinase/RTK; Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



## SOLVENT & SOLUBILITY

### In Vitro

DMSO : 1 mg/mL (2.23 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.2347 mL	11.1734 mL	22.3469 mL
	5 mM	---	---	---
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

### Description

QL47, a broad-spectrum antiviral agent, inhibits dengue virus and other RNA viruses. QL47 selectively inhibits eukaryotic translation. QL47 is a potent covalent inhibitor of BTK with an IC<sub>50</sub> of 7 nM<sup>[1][2][3]</sup>.

### In Vitro

QL47 inhibits protein neosynthesis initiated by both canonical cap-driven and noncanonical initiation strategies, most likely by targeting an early step in translation elongation<sup>[2]</sup>.

QL47 inhibits autophosphorylation of BTK on Tyr223 in cells with an EC<sub>50</sub> of 475 nM, and inhibits phosphorylation of a downstream effector PLCγ2 (Tyr759) with an EC<sub>50</sub> of 318 nM. In Ramos cells QL47 induces a G1 cell cycle arrest that is associated with pronounced degradation of BTK protein. QL47 inhibits the proliferation of B-cell lymphoma cancer cell lines at submicromolar concentrations<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

[1]. 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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[2]. de Wispelaere M, et al. A broad-spectrum antiviral molecule, QL47, selectively inhibits eukaryotic translation. J Biol Chem. 2020;295(6):1694-1703.

[3]. Wu H, et al. Discovery of a potent, covalent BTK inhibitor for B-cell lymphoma. ACS Chem Biol. 2014;9(5):1086-1091.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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