R-10015

Cat. No.: HY-120097

CAS No.: 2097938-51-5

Molecular Formula: $C_{20}H_{19}ClN_6O_2$

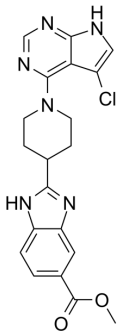
Molecular Weight: 410.86

Target: LIM Kinase (LIMK); Reverse Transcriptase

Pathway: Cell Cycle/DNA Damage; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (152.12 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4339 mL	12.1696 mL	24.3392 mL
	5 mM	0.4868 mL	2.4339 mL	4.8678 mL
	10 mM	0.2434 mL	1.2170 mL	2.4339 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 5 mg/mL (12.17 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (12.17 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 5 mg/mL (12.17 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

R-10015, a broad-spectrum antiviral compound for HIV infection, acts as a potent and selective inhibitor of LIM domain kinase (LIMK) and binds to the ATP-binding pocket, with an IC_{50} of 38 nM for human LIMK1[1].

IC_{50} & Target

human LIMK1
38 nM (IC_{50})

In Vitro

R-10015 (100 μM; 0-4 hours) inhibits cofilin phosphorylation directly through blocking LIM kinase in CEM-SS T cells[1].

R-10015 inhibits HIV-1 DNA synthesis, nuclear migration, and virion release[1].
R-10015 inhibits multiple viruses, including Zaire ebolavirus (EBOV), Rift Valley fever virus (RVFV), Venezuelan equine encephalitis virus (VEEV), and herpes simplex virus 1 (HSV-1) [1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	CEM-SS T cells
Concentration:	100 μM
Incubation Time:	0 hour,0.5 hour,1 hour,2 hours,4 hours
Result:	Inhibited cofilin phosphorylation directly through blocking LIM kinase in CEM-SS T cells.

In Vivo

R-10015 (10 mg/kg; i.p.) displays none indication of toxicity. The result suggests the possibility of short-term use of LIMK inhibitors to block viral infections[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	6-8 weeks female C3H/HeN mice[1]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection
Result:	Displayed none indication of toxicity.

REFERENCES

[1]. Yi F, et al. Discovery of Novel Small-Molecule Inhibitors of LIM Domain Kinase for Inhibiting HIV-1. J Virol. 2017 Jun 9;91(13). pii: e02418-16.

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