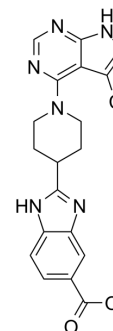


R-10015

| | | | |
|--------------------|---|-------|---------|
| Cat. No.: | HY-120097 | | |
| CAS No.: | 2097938-51-5 | | |
| Molecular Formula: | C ₂₀ H ₁₉ ClN ₆ O 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) | | | | | |
| | | Solvent Concentration | Mass | 1 mg | 5 mg | 10 mg |
| | Preparing Stock Solutions | 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 μ M |
| 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.

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

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