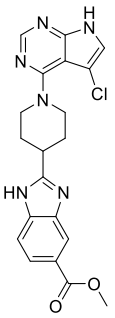
Product data sheet

MedKoo Cat#: 555875 Name: R10015 CAS: 138090-06-9 Chemical Formula: $C_{22}H_{24}O_2$ Exact Mass: 320.1776 Molecular Weight: 320.43	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

Product description:
R10015 is potent DNA synthesis inhibitor and virus inhibitor.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	3.20	10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.43 mL	12.17 mL	24.34 mL
5 mM	0.49 mL	2.43 mL	4.87 mL
10 mM	0.24 mL	1.22 mL	2.43 mL
50 mM	0.05 mL	0.24 mL	0.49 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Yi F, Guo J, Dabbagh D, Spear M, He S, Kehn-Hall K, Fontenot J, Yin Y, Bibian M, Park CM, Zheng K, Park HJ, Soloveva V, Gharaibeh D, Retterer C, Zamani R, Pitt ML, Naughton J, Jiang Y, Shang H, Hakami RM, Ling B, Young JAT, Bavari S, Xu X, Feng Y, Wu Y. Discovery of Novel Small-Molecule Inhibitors of LIM Domain Kinase for Inhibiting HIV-1. J Virol. 2017 Jun 9;91(13):e02418-16. doi: 10.1128/JVI.02418-16. PMID: 28381571; PMCID: PMC5469273.

In vivo study

1. Wang Z, Yin X, Ma M, Ge H, Lang B, Sun H, He S, Fu Y, Sun Y, Yu X, Zhang Z, Cui H, Han X, Xu J, Ding H, Chu Z, Shang H, Wu Y, Jiang Y. IP-10 Promotes Latent HIV Infection in Resting Memory CD4+ T Cells via LIMK-Cofilin Pathway. Front Immunol. 2021 Aug 10;12:656663. doi: 10.3389/fimmu.2021.656663. PMID: 34447368; PMCID: PMC8383741.

7. Bioactivity
Biological target:

R-10015 acts as a potent and selective inhibitor of LIMK and binds to the ATP-binding pocket, with an IC50 of 38 nM for human LIMK1.

In vitro activity

This study identified R10015 as a lead compound that blocks LIMK activity by binding to the ATP-binding pocket. R10015 specifically blocks viral DNA synthesis, nuclear migration, and virion release. R10015 inhibits multiple viruses, including Zaire

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ebolavirus, Rift Valley fever virus, Venezuelan equine encephalitis virus, and herpes simplex virus 1, suggesting that LIMK inhibitors could be developed as a new class of broad-spectrum antiviral drugs.

Reference: J Virol. 2017 Jun 9;91(13):e02418-16. https://pubmed.ncbi.nlm.nih.gov/28381571/

In vivo activity

Treatment of resting CD4+ T cells with R10015 blocked cofilin phosphorylation and abrogated IP-10-mediated enhancement of HIV latent infection. Therapeutic targeting of IP-10 may be a potential strategy for inhibiting HIV latent infection.

Reference: Front Immunol. 2021 Aug 10;12:656663. https://pubmed.ncbi.nlm.nih.gov/34447368/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.