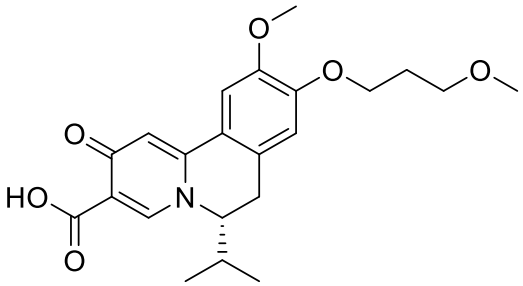
Product data sheet

MedKoo Cat#: 555327 Name: RG7834 R-isomer CAS#: 2072057-18-0 (R-isomer) Chemical Formula: $C_{22}H_{27}NO_6$ Exact Mass: 401.1838 Molecular Weight: 401.46	
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.

1. Product description:

RG7834 R-isomer, also known as RO0321, is an enantiomer of RG7834 and a negative control for RG7834. RG7834 R-isomer has R-configuration with CAS#2072057-18-0. RG7834 is a novel oral HBV viral gene expression inhibitor that blocks viral antigen and virion production. RG7834 is highly selective for HBV, and has a unique antiviral profile that is clearly differentiated from nucleos(t)ide analogues.

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
To be determined	To be determined	To be determined

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.08 mL	10.38 mL	20.75 mL
5 mM	0.42 mL	2.08 mL	4.15 mL
10 mM	0.21 mL	1.04 mL	2.08 mL
50 mM	0.04 mL	0.21 mL	0.42 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. Sun L, Zhang F, Guo F, Liu F, Kulsuptrakul J, Puschnik A, Gao M, Rijnbrand R, Sofia M, Block T, Zhou T. The Dihydroquinolizinone Compound RG7834 Inhibits the Polyadenylase Function of PAPD5 and PAPD7 and Accelerates the Degradation of Matured Hepatitis B Virus Surface Protein mRNA. Antimicrob Agents Chemother. 2020 Dec 16;65(1):e00640-20. doi: 10.1128/AAC.00640-20. PMID: 33046485; PMCID: PMC7927841.
2. Mueller H, Wildum S, Luangsay S, Walther J, Lopez A, Tropberger P, Ottaviani G, Lu W, Parrott NJ, Zhang JD, Schmucki R, Racek T, Hoflack JC, Kueng E, Point F, Zhou X, Steiner G, Lütgehetmann M, Rapp G, Volz T, Dandri M, Yang S, Young JAT, Javanbakht H. A novel orally available small molecule that inhibits hepatitis B virus expression. J Hepatol. 2018 Mar;68(3):412-420. doi: 10.1016/j.jhep.2017.10.014. Epub 2017 Oct 25. PMID: 29079285.

In vivo study

1. Bopst M, Dinklo T, Funk J, Greiter-Wilke A, Lenz B, Kustermann S, Jiang T, Xie J. Unexpected neurotoxicity in chronic toxicity studies with a HBV viral expression inhibitor. Regul Toxicol Pharmacol. 2023 Jun;141:105407. doi: 10.1016/j.yrtph.2023.105407. Epub 2023 May 2. PMID: 37141985.
2. Nagpal N, Wang J, Zeng J, Lo E, Moon DH, Luk K, Braun RO, Burroughs LM, Keel SB, Reilly C, Lindsley RC, Wolfe SA, Tai AK, Cahan P, Bauer DE, Fong YW, Agarwal S. Small-Molecule PAPD5 Inhibitors Restore Telomerase Activity in Patient Stem

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Cells. Cell Stem Cell. 2020 Jun 4;26(6):896-909.e8. doi: 10.1016/j.stem.2020.03.016. Epub 2020 Apr 21. PMID: 32320679; PMCID: PMC7275922.

7. Bioactivity

Biological target:

RG7834 is a highly selective and orally bioavailable HBV inhibitor, potently inhibits HBV antigens (both HBsAg and HBeAg) and HBV DNA, with IC50s of 2.8, 2.6, and 3.2 nM, respectively, in dHepaRG cells.

In vitro activity

In cells expressing HBV mRNA, both PAPD5/7 were found to be physically associated with the viral RNA, and the polyadenylating activities of PAPD5/7 were susceptible to RG7834 repression in a biochemical assay.

Reference: Antimicrob Agents Chemother. 2020 Dec 16;65(1):e00640-20. https://pubmed.ncbi.nlm.nih.gov/33046485/

In vivo activity

When human blood stem cells engineered to carry dyskeratosis congenita (DC)-causing PARN mutations were xenotransplanted into immunodeficient mice, oral treatment with RG7834 rescued TERC 3' end maturation and telomere length. These findings could help develop systemic telomere therapeutics to counteract stem cell exhaustion in DC, pulmonary fibrosis, and possibly other aging-related diseases.

Reference: Cell Stem Cell. 2020 Jun 4;26(6):896-909.e8. https://pubmed.ncbi.nlm.nih.gov/32320679/

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.