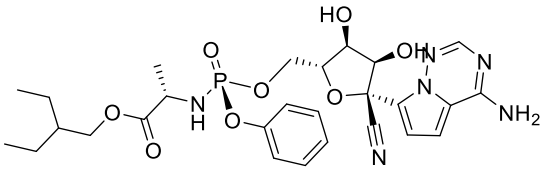
Product data sheet

MedKoo Cat#: 329511 Name: Remdesivir CAS#: 1809249-37-3 (free base) Chemical Formula: $C_{27}H_{35}N_6O_8P$ Exact Mass: 602.2254 Molecular Weight: 602.58		
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:
Remdesivir, also known as GS-5734, is a prodrug form of the antiviral nucleoside analog GS-44152. It was developed as a treatment for filovirus infections such as Ebola virus disease and Marburg virus. Remdesivir was approved for treatment of COVID-19.

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	100.0	165.95
Ethanol	12.0	20.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.66 mL	8.30 mL	16.60 mL
5 mM	0.33 mL	1.66 mL	3.32 mL
10 mM	0.17 mL	0.83 mL	1.66 mL
50 mM	0.03 mL	0.17 mL	0.33 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. Hickerson BT, Sheikh F, Donnelly RP, Ilyushina NA. Comparison of the Antiviral Activity of Remdesivir, Chloroquine, and Interferon-β as Single or Dual Agents Against the Human Beta-Coronavirus OC43. J Interferon Cytokine Res. 2023 Jan;43(1):35-42. doi: 10.1089/jir.2022.0210. PMID: 36651846; PMCID: PMC9885548.
2. Lee CM, Kang MA, Bae JS, Park K, Yang YH, Lee J, Jang KY, Park SH. An in vitro study on anti-carcinogenic effect of remdesivir in human ovarian cancer cells via generation of reactive oxygen species. Hum Exp Toxicol. 2022 Jan-Dec;41:9603271221089257. doi: 10.1177/09603271221089257. PMID: 35417658.

In vivo study

1. Fayyad-Kazan M, Makki R, Homsi ME, Samadi A, Chaaban H, Majzoub RE, Hamade E, Fayyad-Kazan H, Badran B. Circulating microRNA profile in response to remdesivir treatment in coronavirus disease 2019 (COVID-19) patients. Arch Virol. 2023 Jun 28;168(7):194. doi: 10.1007/s00705-023-05825-3. PMID: 37380930.
2. Chen Y, Guo Y, Li S, Xu J, Ning W, Zhao C, Wang J, Qu Y, Zhang M, Zhou W, Cui Q, Zhang H. Remdesivir inhibits the progression of glioblastoma by enhancing endoplasmic reticulum stress. Biomed Pharmacother. 2023 Jan;157:114037. doi: 10.1016/j.biopha.2022.114037. Epub 2022 Nov 22. PMID: 36427388.

7. Bioactivity

Product data sheet

Biological target:

Upon entry into cells, remdesivir metabolizes into the nucleotide triphosphate GS-441524. Remdesivir inhibits murine hepatitis virus (MHV) with an EC50 of 30 nM, and blocks SARS-CoV and MERS-CoV in HAE cells with EC50s of both 74 nM in HAE cells after treatment for 24 h. Remdesivir inhibits both epidemic and zoonotic coronaviruses.

In vitro activity

The combination treatment of remdesivir plus chloroquine resulted in an antagonistic interaction in normal human bronchial epithelial cells. The findings of this study indicate that the combined use of interferon-β plus remdesivir induces maximal antiviral activity against human coronavirus strain OC43 in primary human respiratory epithelial cells.

Reference: J Interferon Cytokine Res. 2023 Jan;43(1):35-42. https://pubmed.ncbi.nlm.nih.gov/36651846/

In vivo activity

Remdesivir treatment can restore the levels of miRNAs that are upregulated in COVID-19 patients to the range observed in healthy subjects. Three miRNAs (hsa-miR-7-5p, hsa-miR-10b-5p, and hsa-miR-130b-3p) were found to be upregulated in patients receiving remdesivir treatment and in patients who experienced natural remission. These upregulated miRNAs could serve as biomarkers of COVID-19 remission.

Reference: Arch Virol. 2023 Jun 28;168(7):194. https://pubmed.ncbi.nlm.nih.gov/37380930/

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.