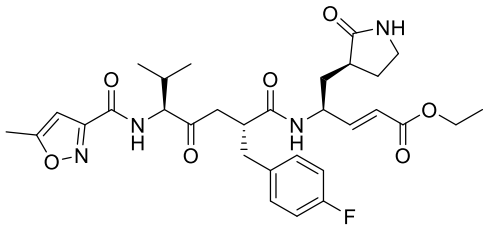
Product data sheet

MedKoo Cat#: 529307 Name: Rupintrivir CAS#: 223537-30-2 Chemical Formula: $C_{31}H_{39}FN_4O_7$ Exact Mass: 598.2803 Molecular Weight: 598.67	
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:
Rupintrivir, also known as AG7088, is a rhinovirus 3C protease inhibitor potentially for the treatment of HRV infection.

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	50	83.52

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.67 mL	8.35 mL	16.70 mL
5 mM	0.33 mL	1.67 mL	3.34 mL
10 mM	0.17 mL	0.84 mL	1.67 mL
50 mM	0.33 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. Kitano M, Hosmillo M, Emmott E, Lu J, Goodfellow I. Selection and Characterization of Rupintrivir-Resistant Norwalk Virus Replicon Cells In Vitro. Antimicrob Agents Chemother. 2018 Apr 26;62(5):e00201-18. doi: 10.1128/AAC.00201-18. PMID: 29530860; PMCID: PMC5923142.
2. Rocha-Pereira J, Nascimento MS, Ma Q, Hilgenfeld R, Neyts J, Jochmans D. The enterovirus protease inhibitor rupintrivir exerts cross-genotypic anti-norovirus activity and clears cells from the norovirus replicon. Antimicrob Agents Chemother. 2014 Aug;58(8):4675-81. doi: 10.1128/AAC.02546-13. Epub 2014 Jun 2. PMID: 24890597; PMCID: PMC4136040.

In vivo study

1. Danov O, Lasswitz L, Obernolte H, Hesse C, Braun A, Wronski S, Sewald K. Rupintrivir reduces RV-induced TH-2 cytokine IL-4 in precision-cut lung slices (PCLS) of HDM-sensitized mice ex vivo. Respir Res. 2019 Oct 22;20(1):228. doi: 10.1186/s12931-019-1175-y. PMID: 31640701; PMCID: PMC6805592.
2. Zhang X, Song Z, Qin B, Zhang X, Chen L, Hu Y, Yuan Z. Rupintrivir is a promising candidate for treating severe cases of enterovirus-71 infection: evaluation of antiviral efficacy in a murine infection model. Antiviral Res. 2013 Mar;97(3):264-9. doi: 10.1016/j.antiviral.2012.12.029. Epub 2013 Jan 5. PMID: 23295352.

7. Bioactivity
Biological target:
Rupatadine fumarate is a potent, orally active and long-lasting dual PAF/H1 antagonist, with Kis of 0.55 μM and 0.1 μM, respectively.

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In vitro activity

The in vitro activity of rupintrivir was explored in the context of human norovirus (HuNoV) replication. Rupintrivir inhibited the replication of the Norwalk virus replicon by targeting the norovirus protease. Sequence analysis revealed specific amino acid substitutions (A105V and I109V) in the viral protease NS6, contributing to enhanced resistance to rupintrivir. Reverse genetics in murine norovirus (MNV) validated that a single I109V substitution in the protease led to reduced susceptibility to rupintrivir.

Reference: Antimicrob Agents Chemother. 2018 Apr 26;62(5):e00201-18. https://pubmed.ncbi.nlm.nih.gov/29530860/

In vivo activity

Lung slices from HDM-sensitized asthmatic mice were infected ex vivo with human rhinovirus (RV), and the effects of rupintrivir on RV-induced cytokine responses were assessed. Rupintrivir treatment mitigated the exaggerated pro-inflammatory cytokine IL-6 and TH-2 cytokine IL-4 in HDM-sensitized mice, highlighting its potential in modulating immune responses in this context.

Reference: Respir Res. 2019 Oct 22;20(1):228. https://pubmed.ncbi.nlm.nih.gov/31640701/

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.