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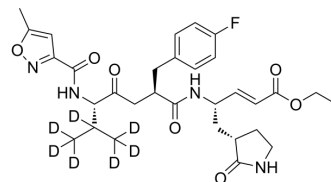
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Rupintrivir-d₇

Cat. No.:	HY-106161S1
Molecular Formula:	C ₃₁ H ₃₂ D ₇ FN ₄ O ₇
Molecular Weight:	605.71
Target:	Enterovirus; Virus Protease; Isotope-Labeled Compounds
Pathway:	Anti-infection; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Rupintrivir-d ₇ is a deuterated labeled Rupintrivir ^[1] . Rupintrivir (AG7088), an antiviral agent, is a potent, selective and irreversible inhibitor of human rhinovirus (HRV) 3C protease. Rupintrivir inhibits replication of a panel of 48 different HRV serotypes in H1-HeLa and MRC-5 cell protection assays, with a mean EC ₅₀ of 0.023 μM. Rupintrivir shows immune-modulatory effect ^{[2][3]} .
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1]. In H1-HeLa and MRC-5 cell protection assays, Rupintrivir (AG7088) inhibited the replication of all HRV serotypes (48 of 48) tested with a mean 50% effective concentration (EC₅₀) of 0.023 μM (range, 0.003 to 0.081 μM) and a mean EC₉₀ of 0.082 μM (range, 0.018 to 0.261 μM) as well as that of related picornaviruses including coxsackieviruses A21 and B3, enterovirus 70, and echovirus 11^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Rupintrivir (AG7088) reduces RV-induced TH-2 cytokine IL-4 in precision-cut lung slices (PCLS) of HDM-sensitized mice ex vivo^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Patick AK, et al. In vitro antiviral activity of AG7088, a potent inhibitor of human rhinovirus 3C protease. *Antimicrob Agents Chemother*. 1999 Oct;43(10):2444-50.
- [2]. Danov O, et al. 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.
- [3]. Dragovich PS, et al. Structure-based design, synthesis, and biological evaluation of irreversible human rhinovirus 3C protease inhibitors. 3. Structure-activity studies of ketomethylene-containing peptidomimetics. *J Med Chem*. 1999 Apr 8;42(7):1203-12.
- [4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.

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

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