Rilematovir

Cat. No.: HY-112180

CAS No.: 1383450-81-4

Molecular Formula: $C_{21}H_{20}ClF_3N_4O_3S$

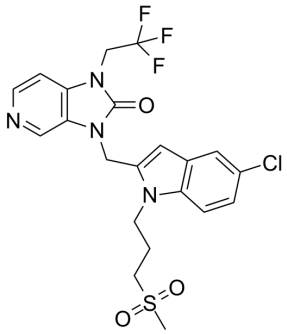
Molecular Weight: 500.92

Target: RSV

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 65 mg/mL (129.76 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9963 mL	9.9816 mL	19.9633 mL
	5 mM	0.3993 mL	1.9963 mL	3.9927 mL
	10 mM	0.1996 mL	0.9982 mL	1.9963 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.17 mg/mL (4.33 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.17 mg/mL (4.33 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (4.33 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rilematovir (JNJ-678) is a novel fusion protein inhibitor. Rilematovir has the potential for respiratory syncytial virus (RSV) research.

IC_{50} & Target

Fusion protein[1]

In Vitro

Rilematovir is a small-molecule respiratory syncytial virus (RSV) fusion inhibitor currently under clinical evaluation in infants hospitalized for RSV infection. Rilematovir binds to RSV F protein in its prefusion conformation. Rilematovir displays very

	potent antiviral activity and low cytotoxicity. In addition to its activity against the RSV A2 strain, Rilematovir is also highly active against a number of RSV strains from both A and B subtypes. The EC_{50} in an RSV infection assay using HeLa cells is 460 pM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Oral treatment of neonatal lambs with Rilematovir, or with an equally active close analog, efficiently inhibits established acute lower respiratory tract infection in the animals, even when treatment is delayed until external signs of respiratory syncytial virus illness have become visible[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	The antiviral activity of JNJ-678 (JNJ-53718678) against hMPV is evaluated using a cellular infectious assay in 96-well plates in which Vero/TMPRSS2 cells are infected with recombinant hMPV65. Cells are treated with different concentrations of JNJ-678 (JNJ-53718678) and then infected with recombinant hMPV (1×10^4 PFU per well). Three days post-virus exposure, viral replication is quantified by measuring fluorescence and the EC_{50} is calculated[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Rats[1] Cotton rats receive either a single dose at 24 h after viral infection or once-daily doses of 40 mg/kg JNJ-678 (JNJ-53718678) by oral gavage, at 24, 48, and 72 h after viral infection. The decrease of viral replication in all experiments is compared to challenged animals that received only the vehicle[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- ACS Nano. 2021 Jul 22.
- J Virol. 2021 Aug 11;JVI0120521.

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REFERENCES

[1]. Roymans D, et al. Therapeutic efficacy of a respiratory syncytial virus fusion inhibitor. Nat Commun. 2017 Aug 1;8(1):167.

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