# Data Sheet

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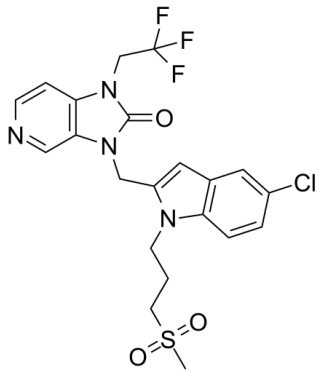
| **Product Name:** | JNJ-678 |
| **Cat. No.:** | CS-0043622 |
| **CAS No.:** | 1383450-81-4 |
| **Molecular Formula:** | C21H20ClF3N4O3S |
| **Molecular Weight:** | 500.92 |
| **Target:** | RSV |
| **Pathway:** | Anti-infection |
| **Solubility:** | DMSO : 65 mg/mL (129.76 mM; Need ultrasonic); H2O : < 0.1 mg/mL (insoluble) |



## BIOLOGICAL ACTIVITY:

JNJ-678 (JNJ-53718678) is a novel **fusion protein** inhibitor in clinical trials for the treatment of **respiratory syncytial virus (RSV)**. IC50 & Target: Fusion protein[1] **In Vitro:** JNJ-678 (JNJ-53718678) is a small-molecule respiratory syncytial virus (RSV) fusion inhibitor currently under clinical evaluation in infants hospitalized for RSV infection. JNJ-678 (JNJ-53718678) binds to RSV F protein in its prefusion conformation. JNJ-678 (JNJ-53718678) displays very potent antiviral activity and low cytotoxicity. In addition to its activity against the RSV A2 strain, JNJ-678 (JNJ-53718678) 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]. **In Vivo:** Oral treatment of neonatal lambs with JNJ-678 (JNJ-53718678), 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].

## PROTOCOL (Extracted from published papers and Only for reference)

**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 ($1\times10^4$ PFU per well). Three days post-virus exposure, viral replication is quantified by measuring fluorescence and the $EC_{50}$ is calculated[1]. **Animal Administration:** JNJ-678 (JNJ-53718678) is dissolved in a 20% (w/v) hydroxypropyl-β-cyclodextrin (HP-β-CD) solution[1].[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].

## References:

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

## CAIndexNames:

2H-Imidazo[4,5-c]pyridin-2-one, 3-[[5-chloro-1-[3-(methylsulfonyl)propyl]-1H-indol-2-yl]methyl]-1,3-dihydro-1-(2,2,2-trifluoroethyl)-

## SMILES:

O=C(N1CC(F)(F)F)N(CC(N2CCCS(=O)(C)=O)=CC3=C2C=CC(Cl)=C3)C4=C1C=CN=C4

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

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