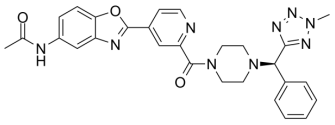
JNJ4796

Cat. No.:	HY-122907
CAS No.:	2241664-16-2
Molecular Formula:	$C_{28}H_{27}N_9O_3$
Molecular Weight:	537.57
Target:	Influenza Virus
Pathway:	Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (186.02 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8602 mL	9.3011 mL	18.6022 mL
	5 mM	0.3720 mL	1.8602 mL	3.7204 mL
	10 mM	0.1860 mL	0.9301 mL	1.8602 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: ≥ 2.5 mg/mL (4.65 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.65 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.65 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

JNJ4796 is an oral active fusion inhibitor of influenza virus, neutralizing influenza A group 1 viruses by inhibiting hemagglutinin (HA)-mediated fusion. JNJ4796 mimics the functionality of the broadly neutralizing antibodies (bnAbs)[1].

IC_{50} & Target

EC50: 12 nM (H1/Bris), 66 nM (H1/Cal), 38 nM (H1/NCa), 22 nM (H1/PR8), 13 nM (H1/SI06), 449 nM (H5/H97), 3.24 μM (H5/Viet)[1].

Hemagglutinin[1].

In Vitro	Like bnAb CR6261, the mechanism of action of JNJ4796 is demonstrated to be based on inhibition of the pH-sensitive conformational change of HA that triggers fusion of the viral and endosomal membranes and release of the viral genome into the host cell[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Oral administration of JNJ4796 protects mice from lethal challenge of 25 times the median lethal dose (LD_{50}) of H1N1 A/Puerto Rico/8/1934 virus. Doses of 50 and 10 mg/kg of JNJ4796 twice daily, initiated one day before challenge and continuing for 7 days, results in 100% survival at day 21 in comparison to the less potent compound JNJ8897 for which less than 50% survival is achieved[1]. Oral doses of JNJ4796 results in dose-dependent efficacy after a sublethal viral challenge (LD_{90}), with twice daily administration of 15 and 5 mg/kg of JNJ4796 giving rise to 100% survival[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female BALB/cAnNCrl mice intranasally infected with 2 × 25 µL of 25 × LD_{50} or 1 × LD_{90} of H1N1 A/Puerto Rico/8/34 dissolved in sterile phosphate buffered saline (D-PBS)[1]
Dosage:	50 and 10 mg/kg.
Administration:	Oral twice daily for 7 days.
Result:	Resulted in 100% survival at day 21 in comparison to the less potent compound JNJ8897.

REFERENCES

[1]. van Dongen MJP, et al. A small-molecule fusion inhibitor of influenza virus is orally active in mice. Science. 2019 Mar 8;363(6431).

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

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