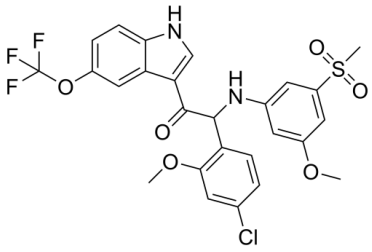
Data Sheet

Product Name:	Mosnodenvir
Cat. No.:	CS-0864783
CAS No.:	2043343-94-6
Molecular Formula:	$C_{26}H_{22}ClF_3N_2O_6S$
Molecular Weight:	582.98
Target:	Dengue virus; Flavivirus; Virus Protease
Pathway:	Anti-infection
Solubility:	DMSO : 100 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Mosnodenvir (JNJ-1802) is an orally active pan serotype dengue virus (**DENV**) inhibitor, with **EC_{50}** values ranging from 0.057 to 11 nM for four dengue virus (**DENV**) serotypes. Mosnodenvir blocks viral replication by inhibiting the formation of complexes between two viral proteins, nonstructural protein 3 (NS3) and NS4B, thereby preventing the formation of new viral RNA. Mosnodenvir exhibits picomolar to nanomolar antiviral activity in vitro and has antiviral efficacy in mice and non-human primates[1][2].

IC50 & Target:DENV[1]. ***In Vitro:***Mosnodenvir exhibits antiviral activity and limited cytotoxicity in Vero, C6/36, Huh-7, and THP-1/DC-SIGN cells infected with DENV[2].

Mosnodenvir (0.00256 nM-8 nM, 24 h) has inhibitory effects on infection of two DENV 2 strains (DENV-2/16681 and DENV-2/RL) in Vero cells[3].

In Vivo:Mosnodenvir (0.2-60 mg/kg; first administration 1 hour before DENV attack; b.i.d; 3 days; p.o.) can block the NS3-NS4B interaction in viral replication complexes and has potent antiviral effects against four types of DENV infections in mice[2].

Mosnodenvir (0.01, 0.18, 3 mg/kg; once daily; 11 days; p.o.) has antiviral efficacy in a non-human primate rhesus monkey model infected with DENV[2].

Mosnodenvir has good pharmacokinetic characteristics in mice, with a terminal half-life of 6.2 hours and oral bioavailability of 46% and 59% at 1 and 3 mg/kg, respectively[2].

References:

[1]. Ackaert O, et al. Safety, tolerability and pharmacokinetics of JNJ-1802, a pan-serotype dengue direct antiviral small molecule, in a Phase 1, double-blind, randomized, dose-escalation study in healthy volunteers. Clin Infect Dis. 2023 May 10:ciad284.

[2]. Goethals O, et al. Blocking NS3-NS4B interaction inhibits dengue virus in non-human primates. Nature. 2023 Mar;615(7953):678-686.

[3]. McCormack CP, et al. Modelling the impact of JNJ-1802, a first-in-class dengue inhibitor blocking the NS3-NS4B interaction, on in-vitro DENV-2 dynamics. PLoS Comput Biol. 2023 Dec 6;19(12):e1011662.

CAIndexNames:

Ethanone, 2-(4-chloro-2-methoxyphenyl)-2-[[3-methoxy-5-(methylsulfonyl)phenyl]amino]-1-[5-(trifluoromethoxy)-1H-indol-3-yl]-, (+)-

SMILES:

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

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