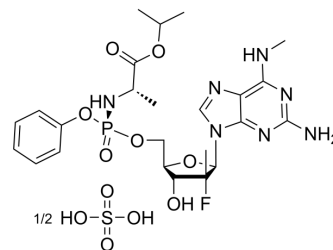


## Bemnifosbuvir hemisulfate

<b>Cat. No.:</b>	HY-137958
<b>CAS No.:</b>	2241337-84-6
<b>Molecular Formula:</b>	C <sub>24</sub> H <sub>33</sub> FN <sub>7</sub> O <sub>7</sub> P <sub>1/2</sub> H <sub>2</sub> O <sub>4</sub> S
<b>Molecular Weight:</b>	630.58
<b>Target:</b>	HCV; SARS-CoV
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 180 mg/mL (285.45 mM; Need ultrasonic)  
 H<sub>2</sub>O : ≥ 100 mg/mL (158.58 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.5858 mL	7.9292 mL	15.8584 mL
	5 mM	0.3172 mL	1.5858 mL	3.1717 mL
	10 mM	0.1586 mL	0.7929 mL	1.5858 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 5 mg/mL (7.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 5 mg/mL (7.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 5 mg/mL (7.93 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Bemnifosbuvir hemisulfate (AT-527), a hemisulfate salt of AT-511, a guanosine nucleotide proagent, is a potent and orally active HCV viral replication inhibitor. Bemnifosbuvir hemisulfate is highly effective in the control of SARS-CoV-2 (COVID-19) infection in vitro (EC<sub>90</sub>=0.47 μM). Bemnifosbuvir hemisulfate has pangenotypic antiviral activity<sup>[1][2][3]</sup>.

#### IC<sub>50</sub> & Target

EC<sub>50</sub>: 5-28 nM (HCV)<sup>[1]</sup>  
 EC<sub>90</sub>: 0.47 μM (SARS-CoV-2)<sup>[2]</sup>

<b>In Vitro</b>	<p>Bemnifosbuvir hemisulfate has pan-genotypic antiviral activities that inhibits HCV genotype 1a (HCV GT1a), HCV GT1b, HCV GT2a, HCV GT3a, HCV GT4a, and HCV GT5a replication with EC<sub>50</sub> values of 12.8 nM, 12.5 nM, 9.2 nM, 10.3 nM, 14.7 nM, and 28.5 nM, respectively<sup>[1]</sup>.</p> <p>In normal human airway epithelial cells, the concentration of Bemnifosbuvir hemisulfate required to inhibit replication of SARS-CoV-2 by EC<sub>90</sub> is 0.47 μM, very similar to its EC<sub>90</sub> against HCoV-229E, HCoV-OC43 and SARS-CoV in Huh-7 cells<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>When given orally to rats (500 mg/kg) and monkeys (30 mg/kg, 100 mg/kg or 300 mg/kg), Bemnifosbuvir hemisulfate preferentially delivers high levels of AT-9010 in the liver in vivo<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## CUSTOMER VALIDATION

- bioRxiv. December 23, 2021.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Steven S Good, et al. Preclinical evaluation of AT-527, a novel guanosine nucleotide prodrug with potent, pan-genotypic activity against hepatitis C virus. PLoS One. 2020 Jan 8;15(1):e0227104.

[2]. Steven S Good, et al. AT-527, a double prodrug of a guanosine nucleotide analog, is a potent inhibitor of SARS-CoV-2 in vitro and a promising oral antiviral for treatment of COVID-19. Antimicrob Agents Chemother. 2021 Feb 8;AAC.02479-20.

[3]. Elina Berliba, et al. Safety, pharmacokinetics and antiviral activity of AT-527, a novel purine nucleotide prodrug, in HCV-infected subjects with and without cirrhosis. Antimicrob Agents Chemother. 2019 Sep 30;63(12):e01201-19.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA