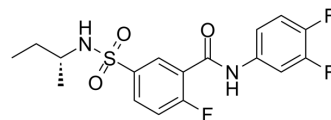


## AB-423

Cat. No.:	HY-112142		
CAS No.:	1572510-80-5		
Molecular Formula:	C <sub>17</sub> H <sub>17</sub> F <sub>3</sub> N <sub>2</sub> O <sub>3</sub> S		
Molecular Weight:	386.39		
Target:	HBV		
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 : ≥ 100 mg/mL (258.81 mM)  
 \* "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.5881 mL	12.9403 mL	25.8806 mL
5 mM	0.5176 mL	2.5881 mL	5.1761 mL
10 mM	0.2588 mL	1.2940 mL	2.5881 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: ≥ 2.5 mg/mL (6.47 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.5 mg/mL (6.47 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

AB-423 is an inhibitor of HBV capsid assembly, and potent inhibits HBV replication with EC<sub>50</sub>/EC<sub>90</sub> of 0.08-0.27 μM/0.33-1.32 μM in cells.

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

HBV capsid<sup>[1]</sup>

#### In Vitro

AB-423 is an inhibitor of HBV capsid assembly. AB-423 shows inhibitory effect on rcDNA production in AML12-HBV10 and HepDE19 cells with EC<sub>50</sub>s of 0.260 μM. AB-423 also suppresses cccDNA formation-dependent HBeAg production in the HepBHAe82 assay with an EC<sub>50</sub> of 0.267 μM and inhibits HBV DNA levels in culture supernatants of HepG 2.2.15 cells with an EC<sub>50</sub> of 0.134 μM. However, AB-423 has no cytotoxicity in any of the three cell lines<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

AB-423 (30 and 100 mg/kg, p.o. bid) blocks HBV replication in a mouse model of HBV. AB-423 (100 mg/kg, p.o. bid) with entecavir (ETV, 100 ng/mg, qd, p.o.) or 0.1 mg/kg dose of ARB-1467 potently inhibits serum HBV DNA in an HDI model of HBV in immunodeficient NOD-SCID mice<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

#### Cell Assay <sup>[1]</sup>

To test the compound combinations, HepBHAe82 (50,000 cells/well) are plated in 96-well tissue-culture treated microtiter plates in DMEM/F12 medium supplemented with 10% fetal bovine serum, 1% penicillin-streptomycin and tetracycline (1  $\mu$ g/mL), and incubated in a humidified incubator at 37°C and 5% CO<sub>2</sub> overnight. On the next day, the cells are switched to fresh medium and treated with inhibitor A and inhibitor B, at concentration range in the vicinity of their respective EC<sub>50</sub> values. The inhibitors are either diluted in 100% DMSO (ETV, TDF and AB-423) or growth medium (ARB-1467 and ARB-1740) and the final DMSO concentration in the assay is  $\leq$ 0.5%. The two inhibitors are tested both singly as well as in combinations determine their effects on inhibition of rcDNA production. The final DMSO concentration in the assay is 0.5%. The plates are incubated for 9 days in a humidified incubator at 37°C and 5% CO<sub>2</sub>. Following a 9 day-incubation, medium is removed, and cells are subjected to RNA extraction to measure the cccDNA-dependent precore mRNA level<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### Animal Administration <sup>[1]</sup>

Mice<sup>[1]</sup>

Prior to start of treatment, 10 micrograms of the plasmid pHBV1.3 is administered to NOD.CB17-Prkdcscid/J mice via hydrodynamic injection (HDI; rapid high volume injection into the tail vein; n = 6 to 8 animals per group). This plasmid carries a 1.3-fold overlength copy of a HBV genotype D genome which, when expressed, generates hepatitis B viral particles and other HBV products. AB-423 is administered via oral gavage at 30 or 100 mg/kg twice-daily for 7 consecutive days, starting on Day 0. Entecavir (ETV) at 100 ng/kg once-daily for 7 consecutive days, starting on Day 0. ARB-1467 is administered as a single intravenous bolus tail vein injection at 0.1 mg/kg on Day 0. Blood is collected on Days 0 (pre-dose), 4 and 7 for HBV biomarker analysis. Serum HBV DNA concentration in mice is measured from total extracted DNA using a quantitative PCR assay using primer/probe sequences<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Nat Commun. 2021 Apr 9;12(1):2114.
- Virus Res. 2019 Oct 2;271:197677.
- Viruses. 2023 May 18, 15(5), 1195.

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

## REFERENCES

[1]. Mani N, et al. Preclinical profile of AB-423, an inhibitor of Hepatitis B virus pgRNA encapsidation. Antimicrob Agents Chemother. 2018 Mar 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