

Bepirovirsen

Cat. No.:	HY-147217
CAS No.:	1403787-62-1
Molecular Weight:	7344
Sequence:	DNA, d(P-thio)([2'-O-(2-methoxyethyl)]rG-[2'-O-(2-methoxyethyl)]m5rC-[2'-O-(2-methoxyethyl)]rA-[2'-O-(2-methoxyethyl)]rG-[2'-O-(2-methoxyethyl)]rA-G-G-T-G-A-A-G-m5 C-G-A-[2'-O-(2-methoxyethyl)]rA-[2'-O-(2-methoxyethyl)]rG-[2'-O-(2-methoxyethyl)]m 5rU-[2'-O-(2-methoxyethyl)]rG-[2'-O-(2-methoxyethyl)]m5rC)
Target:	HBV
Pathway:	Anti-infection
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

Bepirovirsen

SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 20 mg/mL (2.72 mM)
* "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	0.1362 mL	0.6808 mL	1.3617 mL
5 mM	---	---	---
10 mM	---	---	---

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

BIOLOGICAL ACTIVITY

Description

Bepirovirsen is an antisense oligonucleotide targeting all HBV messenger RNAs. Bepirovirsen leads to reductions in HBV-derived RNAs, HBV DNA and viral proteins. Bepirovirsen can be used for the research of chronic HBV infection. Bepirovirsen binding site sequence (GCACTTCGCTTCACCTCTGC)^[1].

In Vitro

Bepirovirsen (16-250 nM; 16 h) reduces hepatitis B virus (HBV) RNA, DNA, and viral proteins in HepG2.2.15 cells^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Bepirovirsen (22-50 mg/kg/week; s.c. twice weekly for week 1 and once weekly for weeks 2-4) reduces hepatic HBV RNA and DNA in HBV-transgenic mice^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model: Male HBV transgenic mice (Tg[HBV 1.3 genome]Chi32 against C57BL/6 background) aged

	7-12 weeks and weight 18-25 g ^[1] .
Dosage:	22, 50 mg/kg/week
Administration:	Injected subcutaneously twice weekly for week 1 and once weekly for weeks 2-4
Result:	Dose-dependently reduced hepatic levels of HBV DNA and HBV RNA in HBV transgenic mice. Reduced levels of serum HBV DNA, serum HBsAg and serum HBeAg.

REFERENCES

[1]. Yuen MF, et al. Safety, tolerability and antiviral activity of the antisense oligonucleotide bepirovirsen in patients with chronic hepatitis B: a phase 2 randomized controlled trial. Nat Med. 2021 Oct;27(10):1725-1734.

[2]. Han K, et, al. Preclinical and Phase 1 Assessment of Antisense Oligonucleotide Bepirovirsen in Hepatitis B Virus-Transgenic Mice and Healthy Human Volunteers: Support for Clinical Dose Selection and Evaluation of Safety, Tolerability, and Pharmacokinetics of Single and Multiple Doses. Clin Pharmacol Drug Dev. 2022 Oct;11(10):1191-1202.

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

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