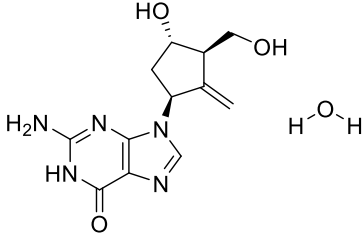


Product data sheet



MedKoo Cat#: 525016 Name: Entecavir hydrate CAS#: 209216-23-9 (hydrate) Chemical Formula: C ₁₂ H ₁₇ N ₅ O ₄ Molecular Weight: 295.29	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Entecavir is an oral antiviral drug used in the treatment of hepatitis B virus (HBV) infection. Entecavir is a reverse transcriptase inhibitor. It prevents the hepatitis B virus from multiplying and reduces the amount of virus in the body. More specifically, it is a deoxyguanosine analogue belonging to a class of carbocyclic nucleosides, that inhibits reverse transcription, DNA replication and transcription in the viral replication process.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	40.33	136.58
DMF	14.0	47.41
DMF:PBS (pH 7.2) (1:1)	0.5	1.69
Ethanol	0.1	0.34
Water	2.8	9.48

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.39 mL	16.93 mL	33.87 mL
5 mM	0.68 mL	3.39 mL	6.77 mL
10 mM	0.34 mL	1.69 mL	3.39 mL
50 mM	0.07 mL	0.34 mL	0.68 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Ming Y, Xin G, Ji B, Ji C, Wei Z, Zhang B, Zhang J, Yu K, Zhang X, Li S, Li Y, Xing Z, Niu H, Huang W. Entecavir as a P2X7R antagonist ameliorates platelet activation and thrombus formation. *J Pharmacol Sci.* 2020 Sep;144(1):43-51. doi: 10.1016/j.jphs.2020.07.002. Epub 2020 Jul 3. PMID: 32653340.

In vivo study

1. Li X, Wu S, Du Y, Yang L, Li Y, Hong B. Entecavir therapy reverses gut microbiota dysbiosis induced by hepatitis B virus infection in a mouse model. *Int J Antimicrob Agents.* 2020 Jul;56(1):106000. doi: 10.1016/j.ijantimicag.2020.106000. Epub 2020 Apr 29. PMID: 32360229.

7. Bioactivity

Biological target:

Product data sheet



Entecavir monohydrate (BMS200475 monohydrate; SQ34676 monohydrate) is a potent and selective inhibitor of HBV, with an EC50 of 3.75 nM in HepG2 cell.

In vitro activity

Based on the above results, this study further evaluated whether entecavir could act as a P2X7R antagonist to influence platelet aggregation. As shown in Fig. 2A, a 2500× magnification of images presented that platelets formed large, stable aggregates and the parapodium stretched out in thrombin-activated platelet, while entecavir or AZD9056 treatment remarkably prevented aggregate formation (Fig. 2A). To further confirm this result, the real-time platelet aggregation was tested. Platelet aggregation in response to thrombin stimulation was inhibited in a concentration dependent manner in the presence of entecavir (Fig. 2B and C). Likewise, AZD9056 resulted in a reduction to 34.9% ± 5.3% in platelet aggregation (Fig. 2B and C).

Reference: J Pharmacol Sci. 2020 Sep;144(1):43-51. <https://pubmed.ncbi.nlm.nih.gov/32653340/>

In vivo activity

The comparison of gut microbiota composition of rAAV8-HBV-infected mice and ETV (Entecavir)-treated mice with healthy controls was carried out using 16S rDNA sequencing analysis of caecal content samples. The intestinal microbiota alpha diversity of rAAV8-HBV-infected mice decreased, and significantly restored after 4 weeks of ETV therapy.

Reference: Int J Antimicrob Agents. 2020 Jul;56(1):106000. <https://pubmed.ncbi.nlm.nih.gov/32360229/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.