# Galidesivir hydrochloride

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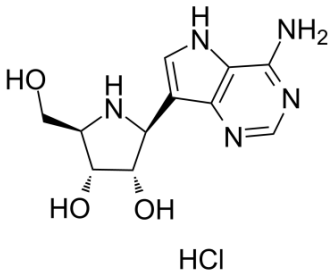
|---|---|
| **Cat. No.:** | HY-18649 |
| **CAS No.:** | 222631-44-9 |
| **Molecular Formula:** | $C_{11}H_{16}ClN_5O_3$ |
| **Molecular Weight:** | 301.73 |
| **Target:** | DNA/RNA Synthesis; SARS-CoV; Filovirus |
| **Pathway:** | Cell Cycle/DNA Damage; Anti-infection |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 6 months<br>-20°C 1 month |




## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : ≥ 41 mg/mL (135.88 mM)

* "≥" means soluble, but saturation unknown.

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.3142 mL | 16.5711 mL | 33.1422 mL |
| | 5 mM | 0.6628 mL | 3.3142 mL | 6.6284 mL |
| | 10 mM | 0.3314 mL | 1.6571 mL | 3.3142 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

Galidesivir (BCX4430) hydrochloride, an adenosine analog and a direct-acting antiviral agent, disrupts viral RNA-dependent RNA polymerase (RdRp) activity. Galidesivir hydrochloride is active in vitro against many RNA viral pathogens, including the filoviruses and emerging infectious agents such as MERS-CoV, SARS-CoV, and SARS-CoV-2. Galidesivir hydrochloride inhibits some negative-sense RNA viruses with $EC_{50}$s ranging from ~3 to ~68 μM[1][2][3].

**$IC_{50}$ & Target**

RdRp inhibitor

**In Vitro**

Cellular kinases phosphorylate Galidesivir (BCX4430) hydrochloride to a triphosphate that mimics ATP; viral RNA polymerases incorporate the drug's monophosphate nucleotide into the growing RNA chain, causing premature chain termination[1].

Galidesivir hydrochloride effectively inhibits the infection of Vero cells with YFV. The $EC_{50}$ determined by the neutral red uptake assay is 8.3 μg/ml (24.5 μM)[3].

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

**In Vivo**

Galidesivir (BCX4430) hydrochloride is active after intramuscular, intraperitoneal, and oral administration in a variety of experimental infections. In nonclinical studies involving lethal infections with Ebola virus, Marburg virus, Rift Valley fever virus, and Yellow Fever virus, Galidesivir hydrochloride has demonstrated pronounced efficacy[1].
Galidesivir hydrochloride (4 mg/kg; i.p.; twice daily for 7 days) is effectively in a hamster model of yellow fever (YF)[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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|---|---|
| Animal Model: | Female Syrian golden hamsters (hamsters infected with YF virus)[4] |
| Dosage: | 4 mg/kg of body weight |
| Administration: | I.p.; twice daily for 7 days |
| Result: | Significantly improved the survival of hamsters infected with YFV. |

## CUSTOMER VALIDATION

- Nucleic Acids Res. 2021 Jan 8;49(D1):D1113-D1121.
- Antimicrob Agents Chemother. 2019 Feb 26;63(3):e02093-18.
- Microorganisms. 2021 Mar 31;9(4):734.
- Antiviral Res. 2017 Mar 21;142:63-67.
- Viruses. 2020 Jun 10;12(6):628.

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## REFERENCES


[1]. Elfiky AA, et al. ICN-1229, Remdesivir, PSI-7977, Galidesivir, and GS 1278 against SARS-CoV-2 RNA dependent RNA polymerase (RdRp): A molecular docking study. Life Sci. 2020 Mar 25:117592.

[2]. Taylor R, et al. BCX4430 - A broad-spectrum antiviral adenosine nucleoside analog under development for the treatment of Ebola virus disease. J Infect Public Health. 2016;9(3):220-226.

[3]. Warren TK, et al. Protection against filovirus diseases by a novel broad-spectrum nucleoside analogue BCX4430. Nature. 2014;508(7496):402-405.

[4]. Julander JG, et al. BCX4430, a novel nucleoside analog, effectively treats yellow fever in a Hamster model. Antimicrob Agents Chemother. 2014;58(11):6607-6614.





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