Azvudine hydrochloride

Cat. No.: HY-19314A

CAS No.: 1333126-31-0

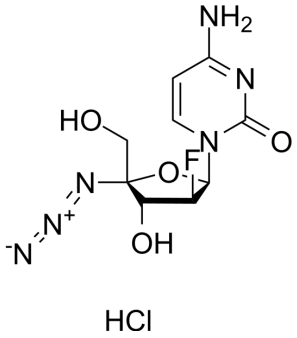
Molecular Formula: $C_9H_{12}ClFN_6O_4$

Molecular Weight: 322.68

Target: Reverse Transcriptase; HIV; HBV; HCV

Pathway: Anti-infection

Storage: 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

H_2O : 125 mg/mL (387.38 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0990 mL	15.4952 mL	30.9905 mL
	5 mM	0.6198 mL	3.0990 mL	6.1981 mL
	10 mM	0.3099 mL	1.5495 mL	3.0990 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 14.29 mg/mL (44.29 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

BIOLOGICAL ACTIVITY

Description

Azvudine (RO-0622) hydrochloride is a potent nucleoside reverse transcriptase inhibitor (NRTI), with antiviral activity on HIV, HBV and HCV. Azvudine hydrochloride exerts highly potent inhibition on HIV-1 (EC_{50}s ranging from 0.03 to 6.92 nM) and HIV-2 (EC_{50}s ranging from 0.018 to 0.025 nM). Azvudine hydrochloride inhibits NRTI-resistant viral strains[1]. Azvudine (hydrochloride) is a click chemistry reagent, it contains an Azide group and can undergo copper-catalyzed azide-alkyne cycloaddition reaction (CuAAc) with molecules containing Alkyne groups. Strain-promoted alkyne-azide cycloaddition (SPAAC) can also occur with molecules containing DBCO or BCN groups.

IC_{50} & Target

HIV-1	HIV-2
0.03-6.92 nM (EC50)	0.018-0.02 nM (EC50)

In Vitro

Azvudine (RO-0622) hydrochloride displays strong inhibition on wild-type HIV-1_{IIIB} and HIV-1_{RF} with an EC_{50} ranging from 30 to 110 pM. The EC_{50} values of Azvudine hydrochloride against HIV-1_{KM018}, HIV-1_{TC-1} and HIV-$1_{WAN\ T69N}$ are 6.92, 0.34 and 0.45 nM, respectively. Azvudine is sensitive to NRTIs-resistant strain HIV-1_{74V}, PIs-resistant strains HIV-1 $_{L10R/M46I/L63P/V82T/I84V}$ and HIV-$1_{RF\ V82F/184V}$, and FIs-resistant strain pNL4-$3_{gp41\ (36G)\ V38A/N42T}$. The EC_{50} values of Azvudine

hydrochloride against these resistant strains are 0.11, 0.14, 0.37 and 0.36 nM respectively[1].

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

REFERENCES

[1]. Wang RR, et al. Azvudine, a novel nucleoside reverse transcriptase inhibitor showed good drug combination features and better inhibition on drug-resistant strains than lamivudine in vitro. PLoS One. 2014 Aug 21;9(8):e105617.

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