3'-Azido-3'-deoxy-5-methylcytidine

Cat. No.: HY-111640

CAS No.: 1282040-14-5

Molecular Formula: $C_{10}H_{14}N_6O_4$

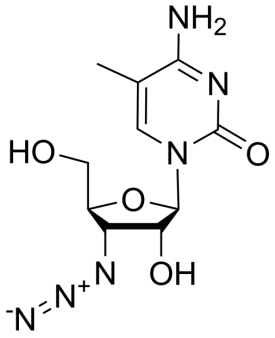
Molecular Weight: 282.26

Target: HIV; Reverse Transcriptase

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 : 83.33 mg/mL (295.22 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5428 mL	17.7142 mL	35.4283 mL
	5 mM	0.7086 mL	3.5428 mL	7.0857 mL
	10 mM	0.3543 mL	1.7714 mL	3.5428 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (7.37 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.37 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

3'-Azido-3'-deoxy-5-methylcytidine (CS-92) is a potent xenotropic murine leukemia-related retrovirus (XMRV) inhibitor with a CC_{50} of 43.5 μM in MCF-7 cells. 3'-Azido-3'-deoxy-5-methylcytidine also inhibits HIV-1 reverse transcriptase with an EC_{50} of 0.06 μM in peripheral blood mononuclear (PBM) cells[1]. 3'-Azido-3'-deoxy-5-methylcytidine 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 0.06 μM (EC50, in PBM cells)	XMRV 43.5 μM (CC50, in MCF-7 cells)

REFERENCES

[1]. Singh IR, et al. Raltegravir is a potent inhibitor of XMRV, a virus implicated in prostate cancer and chronic fatigue syndrome. PLoS One. 2010 Apr 1;5(4):e9948.

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