Zidovudine O-β-D-glucuronide sodium

Cat. No.: HY-137522

CAS No.: 133525-01-6

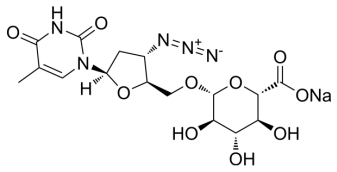
Molecular Formula: $C_{16}H_{20}N_5NaO_{10}$

Molecular Weight: 465.35

Target: Drug Metabolite

Pathway: Metabolic Enzyme/Protease

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

DMSO : 100 mg/mL (214.89 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1489 mL	10.7446 mL	21.4892 mL
	5 mM	0.4298 mL	2.1489 mL	4.2978 mL
	10 mM	0.2149 mL	1.0745 mL	2.1489 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: ≥ 2.5 mg/mL (5.37 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.37 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Zidovudine O-β-D-glucuronide (3'-Azido-3'-deoxythymidine β-D-glucuronide) sodium is the major metabolite of Zidovudine. Zidovudine is a nucleoside reverse transcriptase inhibitor (NRTI), widely used to treat HIV infection[1][2]. Zidovudine O-β-D-glucuronide (sodium) 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.

REFERENCES

[1]. Fayz S, et, al. Zidovudine azido-reductase in human liver microsomes: activation by ethacrynic acid, dipyridamole, and indomethacin and inhibition by human immunodeficiency virus protease inhibitors. Antimicrob Agents Chemother. 1998 Jul;42(7):1654-8.

[2]. Bélanger AS, et, al. Glucuronidation of the antiretroviral drug efavirenz by UGT2B7 and an in vitro investigation of drug-drug interaction with zidovudine. Drug Metab Dispos. 2009 Sep;37(9):1793-6.

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