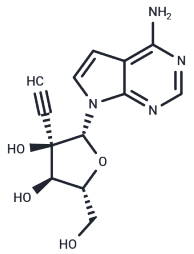
Data Sheet (Cat.No.T16325)

TargetMol
YOUR TARGET MOLECULES

NITD008

Chemical Properties



CAS No. : 1044589-82-3

Formula: C13H14N4O4

Molecular Weight: 290.27

Appearance: no data available

Storage: store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	NITD008 (7-Deaza-2'-C-acetylene-adenosine) is a potent and selective adenosine nucleoside inhibitor.NITD008 is an adenosine nucleoside analog with broad-spectrum antiviral activity that inhibits dengue, animal cupripoxvirus, and Zika virus.
Targets(IC50)	Others
In vitro	NITD008 exhibits potent inhibition against various viruses, including Dengue virus (DENV), West Nile virus, yellow fever virus, and Poissan virus. In the case of DENV-2, NITD008 inhibits the virus in a dose-responsive manner, with an EC50 value of 0.64 μM. Treatment with 9 μM of the compound results in a reduction in viral titer by >104-fold[1].Furthermore, NITD008 also demonstrates inhibitory activity against a luciferase-reporting replicon of hepatitis C virus (HCV, genotype 1b), a member of the genus Hepacivirus, with an EC50 value of 0.11 μM[1].
In vivo	NITD008, with good pharmacokinetic properties, is orally bioavailable. The formulation using 6 N HCl (1.5 equimolar amount), 1 N NaOH (pH adjusted to 3.5), and 100 mM citrate buffer (pH 3.5) yields the best pharmacokinetic parameters. Following intravenous (i.v.) injection, NITD008 demonstrates a high volume of distribution (3.71 L/kg) and low systemic clearance (31.11 mL/min per kg), resulting in a long elimination half-life (t1/2=4.99 h). After oral dosing, NITD008 is rapidly absorbed (time of peak plasma concentration=0.5 h), reaching a maximal plasma concentration of 3 μM, with a bioavailability of 48%. When administered immediately after viral infection, a dose of 1 mg/kg of NITD008 does not reduce mortality, but treatment with 3 mg/kg provides partial protection, and doses of ≥10 mg/kg completely protect infected mice from death. NITD008 effectively suppresses peak viremia, reduces cytokine elevation, and prevents mortality in the infected mice[1].

Solubility Information

Solubility	DMSO: 50 mg/mL (172.25 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4451 mL	17.2253 mL	34.4507 mL
5 mM	0.689 mL	3.4451 mL	6.8901 mL
10 mM	0.3445 mL	1.7225 mL	3.4451 mL
50 mM	0.0689 mL	0.3445 mL	0.689 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Yin Z, et al. An adenosine nucleoside inhibitor of dengue virus. Proc Natl Acad Sci U S A. 2009 Dec 1;106(48): 20435-9.