3-Deazaadenosine hydrochloride

基本信息：

Cat. No.: GM-2022131

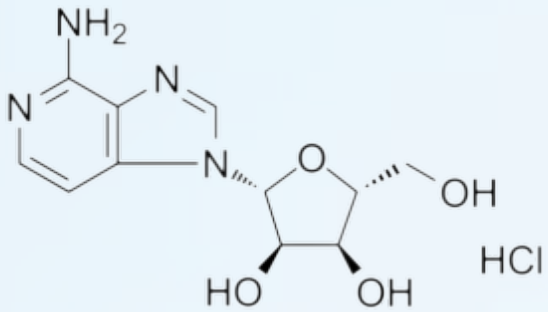
CAS No.: 86583-19-9

分子式: $C_{11}H_{15}CLN_4O_4$

分子量：302.71

作用靶点：HIV

作用通路：Anti-infection



储存方式：

4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

溶解性数据——体外实验：

DMSO : 41.67mg/mL (137.66 mM; Need ultrasonic)

	Concentration/ Solvent/Mass	1 mg	5 mg	10 mg
制备储备液	1 mM	3.3035mL	16.5175 mL	33.0349 mL
	5 mM	0.6607 mL	3.3035 mL	6.6070 mL
	10 mM	0.3303 mL	1.6517 mL	3.3035 mL

订购电话：021-55089063
网址：www.genelily.com
技术支持：service@genelily.com

请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。 (sealed storage, away from moisture)。-80°C 储存时，请在6个月内使用，-20°C 储存时，请在1个月内使用。

溶解性数据——体内实验：

请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；

——体内实验的工作液，建议您现用现配，当天使用；

——以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；

——如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶。

1. 请依序添加每种溶剂：10% DMSO → 40% PEG300 → 5% Tween-80 → 45% saline
   Solubility: ≥ 2.08mg/mL (6.87 mM); Clear solution
   此方案可获得 ≥ 2.08mg/mL (6.87mM，饱和度未知) 的澄清溶液。
   以1 mL工作液为例，取 100 μL 20.8mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。
2. 请依序添加每种溶剂：10% DMSO → 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08mg/mL (6.87mM); Clear solution
   此方案可获得 ≥ 2.08 mg/mL (6.87mM，饱和度未知) 的澄清溶液。
   以 1 mL 工作液为例，取 100 μL 20.8mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-C 生理盐水水溶液中，混合均匀。
3. 请依序添加每种溶剂：10% DMSO → 90% corn oil
   Solubility: ≥ 2.08mg/mL (6.87 mM); Clear solution
   此方案可获得 ≥ 2.08 mg/mL (6.87mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。
   以 1 mL 工作液为例，取 100 μL 20.8mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。

BIOLOGICAL ACTIVITY

生物活性	3-Deazaadenosine (hydrochloride) 是种 S-腺苷半胱氨酸解酶 (S-adenosylhomocysteine hydrolase) 抑制剂，Ki值为3.9 μM；3-Deazaadenosine (hydrochloride) 具有抗炎、抗增殖、抗 HIV 等活性。
IC_{50} & Target	IC_{50}: 0.15 (HIV-1, A012 isolate), 0.20 μM (HIV-1, A018 isolate)[1] K_i: 3.9 μM (S-adenosylhomocysteine hydrolase)[1]
体外研究	3-Deazaadenosine is an inhibitor of S-adenosylhomocysteine hydrolase, with a K_i of 3.9 μM. 3-Deazaadenosine shows antiHIV effect, and inhibits p24 antigen in peripheral blood mononuclear (PBMCs) cells infected with HIV-1 (A012 and A018) isolates with IC_{50}s of 0.15 and 0.20 μM, respectively[1]. 3-Deazaadenosine (1-100 μM) inhibits LPS-induced expression of TNF-α mRNA , increases DNA binding activity of NF-κB, and causes proteolytic degradation of IκBα, but Not IκBβ in RAW 264.7 cells. 3-Deazaadenosine (100 μM) enhances nuclear translocation of NF-κB, but blocks LPS-induced NF-κB transcriptional activity,and such inhibition is augmented by the addition of homocysteine[2]. 3-Deazaadenosine (50, 100 μM) dose-dependentlyinhibits the phosphorylation of Raf and ERK, protein-dependent kinase 1, protein kinase B (Akt), and forkhead transcriptionfactor FoxO1a. 3-Deazaadenosine (50 μM) suppresses vascular smooth muscle cell (VSMC) proliferation via interfering with Ras signaling[3]. *These methods are for reference only.

PROTOCOL

Cell Assay [1]	The HIV-1 strains A012 and A018 are used in the assay. Inhibition of p24 antigen is measured. Briefly, PHA-stimulated peripheral blood mononuclear (PBMCs) are incubated with either HIV-1 strain for 1 h at 37°C at 200-fold the 50% tissue culture infectious dose ($TCID_{50}$) of the virus stock per 2×10^5 PBMC cells. The $TCID_{50}$ is defined as the amount of virus stock at which 50% of the inoculated wells are positive. Cells are then grown in microtiter plates with different drug concentrations at 2×10^5 cells per well. On day 4, cells are resuspended and split 1:3 with fresh media and 3-Deazaadenosine. Supernatant p24 antigen is determined on day 7 by ELISA[1]. *These methods are for reference only.

订购电话：021-55089063
网址：www.genelily.com
技术支持：service@genelily.com

REFERENCES

[1].Gordon RK, et al. Anti-HIV-1 activity of 3-deaza-adenosine analogs. Inhibition of S-adenosylhomocysteine hydrolase and nucleotide congeners. Eur J Biochem. 2003 Sep;270 (17):3507-17.

[2].Jeong SY, et al. 3-deazaadenosine, a S-adenosylhomocysteine hydrolase inhibitor, has dual effects on NF-kappaB regulation. Inhibition of NF-kappaB transcriptional activity and promotion of IkappaBalpha degradation. J Biol Chem. 1999 Jul 2;274(27):18981-8.

[3].Sedding DG, et al. 3-Deazaadenosine prevents smooth muscle cell proliferation and neointima formation by interfering with Ras signaling. Circ Res. 2009 May 22;104(10):1192-200.