NBD-14270

Cat. No.: HY-139989

CAS No.: 2411819-82-2

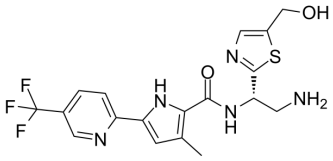
Molecular Formula: $C_{18}H_{18}F_3N_5O_2S$

Molecular Weight: 425.43

Target: HIV

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (235.06 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3506 mL	11.7528 mL	23.5056 mL
	5 mM	0.4701 mL	2.3506 mL	4.7011 mL
	10 mM	0.2351 mL	1.1753 mL	2.3506 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 (5.88 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NBD-14270, a pyridine analogue, is a potent HIV-1 entry antagonist with an IC_{50} of 180 nM against 50 HIV-1 Env-pseudotyped viruses. NBD-14270 binds to HIV-1 gp120 and shows potent antiviral activity. NBD-14270 shows low cytotoxicity (CC_{50}>100 μM)[1][2].

IC_{50} & Target

HIV-1

In Vitro

NBD-14270 has anti-HIV-1 activity (IC50=0.16 μM) and Cytotoxicity (CC50=109.3 μM) in single-cycle (TZM-bl Cells) assay[1].
NBD-14270 does not induce toxicity in the U87-CD4-CXCR4 cell line at the doses used for this assay[1].

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

REFERENCES

[1]. Francesca Curreli, et al. Preclinical Optimization of gp120 Entry Antagonists as anti-HIV-1 Agents with Improved Cytotoxicity and ADME Properties through Rational Design, Synthesis, and Antiviral Evaluation. J Med Chem. 2020 Feb 27;63(4):1724-1749.

[2]. Natalie Losada, et al. HIV-1 gp120 Antagonists Also Inhibit HIV-1 Reverse Transcriptase by Bridging the NNRTI and NRTI Sites. J Med Chem. 2021 Nov 25;64(22):16530-16540.

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