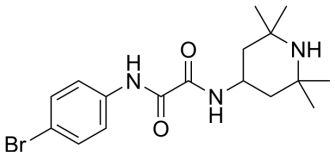
NBD-557

Cat. No.:	HY-76649
CAS No.:	333352-59-3
Molecular Formula:	$C_{17}H_{24}BrN_3O_2$
Molecular Weight:	382.3
Target:	HIV
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 : 10 mg/mL (26.16 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6157 mL	13.0787 mL	26.1575 mL
	5 mM	0.5231 mL	2.6157 mL	5.2315 mL
	10 mM	0.2616 mL	1.3079 mL	2.6157 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: ≥ 1 mg/mL (2.62 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (2.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NBD-557 is a potentially HIV-1 inhibitor.IC50 Value: Target: HIVNBD-557, is small molecule organic compounds with drug-like properties. It showed potent cell fusion and virus-cell fusion inhibitory activity at low micromolar levels. A systematic study showed that NBD-557 target viral entry by inhibiting the binding of HIV-1 envelope glycoprotein gp120 to the cellular receptor CD4 but did not inhibit reverse transcriptase, integrase, or protease, indicating that they do not target the later stages of the HIV-1 life cycle to inhibit HIV-1 infection. NBD-557 potent inhibitors of both X4 and R5 viruses tested in CXCR4 and CCR5 expressing cell lines, respectively, indicating that its anti-HIV-1 activity is not dependent on the coreceptor tropism of the virus. A surface plasmon resonance study, which measures binding affinity, clearly demonstrated that NBD-557 bind to unliganded HIV-1 gp120 but not to the cellular receptor CD4. NBD-557 was active against HIV-1 laboratory-adapted strains including an AZT-resistant strain and HIV-1 primary isolates, indicating that NBD-557 can potentially be further modified to become potent HIV-1 entry inhibitors.

IC_{50} & Target	HIV-1

CUSTOMER VALIDATION

- Int J Antimicrob Agents. 2019 Dec;54(6):814-819.

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REFERENCES

[1]. Arne Schön, et al. Thermodynamics of binding of a low-molecular-weight CD4 mimetic to HIV-1 gp120. Biochemistry. 2006 Sep 12;45(36):10973-80.

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