

Product Data Sheet

Product Name: RN-18
Cat. No.: GC18382

Chemical Properties

Cas. No. 431980-38-0

Chemical Name N-(2-methoxyphenyl)-2-[(4-nitrophenyl)thio]-benzamide

SMILES O=C(NC1=C(OC)C=CC=C1)C2=CC=CC=C2SC3=CC=C([N+])([O-])=O)C=C3

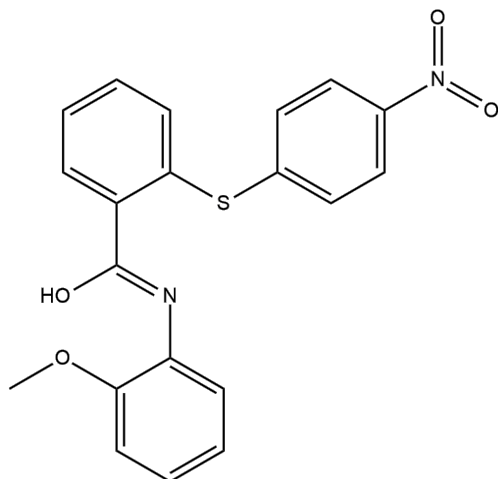
Formula $C_{20}H_{16}N_2O_4S$ M.Wt 380.4

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, DMSO: PBS (pH 7.2) (1:2): 0.33 mg/ml, Ethanol: slightly soluble
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

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Cell experiment: H9 or MT4 cells are treated overnight with 0, 1, 5, 10, 25 or 50 μ M RN-18 (all at 0.1% DMSO) and infected with HIV-1. All cells are maintained in the presence of DMSO or RN-18 for 14 d, and viral replication is monitored every 2 d by measuring reverse transcriptase activity in culture supernatants. The average % relative infectivity at day 7 is determined from 3 separate reverse transcriptase assays. Grafit software is used to fit curves and to determine IC₅₀[2].

References:

- [1]. Mohammed I, et al. SAR and Lead Optimization of an HIV-1 Vif-APOBEC3G Axis Inhibitor. ACS Med Chem Lett. 2012 Jun 14;3(6):465-469.
[2]. Nathans R, et al. Small-molecule inhibition of HIV-1 Vif. Nat Biotechnol. 2008 Oct;26(10):1187-92.

Background

RN-18 is a HIV-1 viral infectivity factor (HIV-1 Vif) inhibitor with an IC₅₀ of 6 μ M in nonpermissive H9 cells.

RN-18 and RN-19 exhibits potent antiviral activity in the nonpermissive H9 and CEM cells but not in MT4 or CEM-SS cells, confirming that the antiviral activity was Vif specific. RN-18 shows the greater potency (IC₅₀=4.5 μ M in CEM cells) and specificity (IC₅₀>100 μ M in MT4 cells) among the two compounds[1]. In the presence of the inhibitor, RN-18, reverse transcriptase activity in the nonpermissive H9 and CEM cells decreases substantially and in a dose-dependent manner. RN-18 also exhibits antiviral activity in CEM-SS modified to stably express A3G but does not exhibit antiviral activity in the parental CEM-SS cell line. RN-18 antagonizes Vif function and inhibits HIV-1 replication only in the presence of A3G. RN-18 increases cellular A3G levels in a Vif-dependent manner and increases A3G incorporation into virions without inhibiting general proteasome-mediated protein degradation. RN-18 enhances Vif degradation only in the presence of A3G, reduces viral infectivity by increasing A3G incorporation into virions and enhances cytidine deamination of the viral genome[2].

References:

- [1]. Mohammed I, et al. SAR and Lead Optimization of an HIV-1 Vif-APOBEC3G Axis Inhibitor. ACS

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