Cyclotriazadisulfonamide

Cat. No.: HY-134809

CAS No.: 182316-44-5

Molecular Formula: $C_{31}H_{39}N_3O_4S_2$

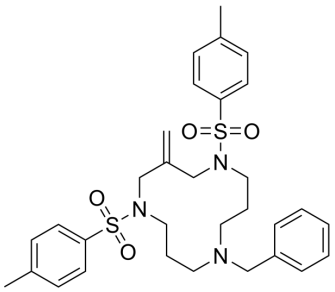
Molecular Weight: 581.79

Target: HIV

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (57.29 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	1.7188 mL	8.5942 mL	17.1883 mL
	5 mM	0.3438 mL	1.7188 mL	3.4377 mL
	10 mM	0.1719 mL	0.8594 mL	1.7188 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Cyclotriazadisulfonamide (CADA) is a specific CD4-targeted HIV entry inhibitors. Cyclotriazadisulfonamide (CADA) inhibits the co-translational translocation of human CD4 (huCD4) into the ER lumen in a signal peptide (SP)-dependent way. Cyclotriazadisulfonamide is also a Sec61 translocon inhibitor[1][2][3].

IC_{50} & Target

HIV-1

In Vitro

Cyclotriazadisulfonamide (CADA) significantly decreases the amount of cell surface CD4 -the main receptor for HIV -without altering the expression of any other cellular receptor examined so far[1].

Cyclotriazadisulfonamide (CADA) exhibits an EC_{50} of 0.4 μg/mL for CD4 in MO-DC cells. Treatment of MO-DC with 10 μg/mL of CADA results in 83% downregulation of cell surface CD4, an effect that is similar to that observed for CADA treatment of $CD4^+$ T cells[1].

CADA prevents MT-4 cells from HIV-1 and SIV infection (EC_{50} are 0.7 and 1.2 g/ml, respectively)[1].

Cyclotriazadisulfonamide is a Sec61 translocon inhibitor with a selective nature. A proteomics study on T-cells is performed and identified only five substrates (huCD4, SORT, CD137, DNAJC3, PTK7, ERLEC1) for Cyclotriazadisulfonamide, with IC_{50}s of 0.2–2 μM[3].

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

Western Blot Analysis[1]

Cell Line:	MO-DCs.
Concentration:	0.4 μg/mL.
Incubation Time:	24 h.
Result:	A 50% reduction in CD4 expression was obtained.

REFERENCES

[1]. Pauwels E, et al. Inhibitors of the Sec61 Complex and Novel High Throughput Screening Strategies to Target the Protein Translocation Pathway. Int J Mol Sci. 2021 Nov 5;22(21):12007.

[2]. Kurt Vermeire, et al. CADA, a potential anti-HIV microbicide that specifically targets the cellular CD4 receptor. Curr HIV Res. 2008 May;6(3):246-56.

[3]. Victor Van Puyenbroeck, et al. Preprotein signature for full susceptibility to the co-translational translocation inhibitor cyclotriazadisulfonamide. Traffic. 2020 Feb;21(2):250-264.

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