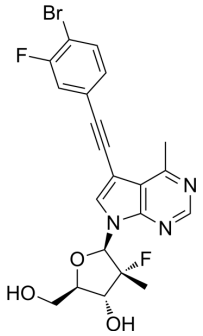
ZIKV-IN-1

Cat. No.:	HY-146957
CAS No.:	2762166-06-1
Molecular Formula:	$C_{21}H_{18}BrF_2N_3O_3$
Molecular Weight:	478.29
Target:	Virus Protease; Flavivirus
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

ZIKV-IN-1 is a potent zika virus inhibitor with an EC_{50} of 2.8 μM and EC_{90} of 6.8 μM. ZIKV-IN-1 shows anti-ZIKV activity with low cytotoxicity. ZIKV-IN-1 shows a strong affinity to ZIKV RdRp domain[1]. ZIKV-IN-1 is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups.

IC_{50} & Target

EC_{50}: 2.8 μM (ZIKV)[1]

In Vitro

ZIKV-IN-1 (compound 38) (0-80 μM) shows anti-ZIKV activity in a dose-dependent manner in A549 cells[1].
ZIKV-IN-1 (5, 10, 25 μM; 48 h) decreases the expression of ZIKV E and cleaved caspase 3 protein[1].
ZIKV-IN-1 (1.25, 2.5, 5, 10, 20 μM; 0-250 s) shows strong affinity to ZIKV RdRp domain (K_d=1.87 μM) in A549 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	A549 cells
Concentration:	0-50 μM
Incubation Time:	
Result:	Showed anti-ZIKV activity with an EC_{50} of 2.8 μM, EC_{90} of 6.8 μM, and CC_{50} of >50 μM.

Western Blot Analysis[1]

Cell Line:	A549, Vero cells
Concentration:	5, 10, 25 μM
Incubation Time:	48 h
Result:	Decreased the expression of ZIKV E and cleaved caspase 3 protein.

Cell Cytotoxicity Assay[1]

Cell Line:	Vero, SNB19, Huh7, A549 cells

Concentration:	0-80 μM
Incubation Time:	
Result:	Showed low cytotoxicity with CC_{50}s of 46.8, 49.4, 43.8, 54.1 μM for ZG01 strain of Vero, SNB19, Huh7, A549 cells, and CC_{50}s of 470.5, 485.2, 512.8, 160.8 μM for MR766 strain of Vero, SNB19, Huh7, A549 cells, respectively.

REFERENCES

[1]. Yao G, et al. Design, synthesis, and biological evaluation of novel 2'-methyl-2'-fluoro-6-methyl-7-alkynyl-7-deazapurine nucleoside analogs as anti-Zika virus agents. Eur J Med Chem. 2022 Apr 15;234:114275.

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