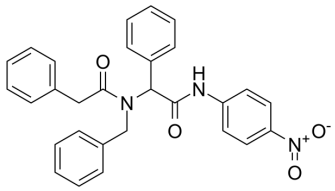
MMP-9-IN-3

Cat. No.:	HY-146216
CAS No.:	2581824-48-6
Molecular Formula:	$C_{29}H_{25}N_3O_4$
Molecular Weight:	479.53
Target:	MMP; Akt; Apoptosis
Pathway:	Metabolic Enzyme/Protease; PI3K/Akt/mTOR; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MMP-9-IN-3 is a MMP-9 inhibitor (IC_{50}: 5.56 nM) that forms hydrogen bond with MMP-9. MMP-9-IN-3 also inhibits AKT activity (IC_{50}: 2.11 nM). MMP-9-IN-3 shows cell cytotoxicity and induces cell apoptosis. MMP-9-IN-3 can be used in the research of cancers[1].

IC_{50} & Target

MMP-9 5.56 nM (IC_{50})	MMP-1 447 nM (IC_{50})	MMP-2 221 nM (IC_{50})	MMP13 295 nM (IC_{50})
AKT 2.11 nM (IC_{50})			

In Vitro

MMP-9-IN-3 (compound 28, 0-1 μM approximately, 72 h) shows cytotoxicity to Wi-38, MCF-7, NFS-60, HepG-2 cells[1].
MMP-9-IN-3 (72 h) induces apoptosis in MCF-7, NFS-60 and HepG-2 cells at 6.6 nM, 5.8 nM, 5.7 nM respectively[1].
MMP-9-IN-3 (72 h) induces significant caspase 3/7 activation in MCF-7, NFS-60 and HepG-2 cells at 6.6 nM, 5.8 nM, 5.7 nM respectively[1].
MMP-9-IN-3 (5.7 nM, 24 h) inhibits cell migration in HepG-2 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Wi-38, MCF-7, NFS-60, HepG-2 cells
Concentration:	0-1 μM approximately
Incubation Time:	72 h
Result:	Showed cytotoxicity with IC_{50}: 314 nM (Wi-38), 6.6 nM (MCF-7), 5.8 nM (NFS-60), 5.7 nM (HepG-2).

Cell Migration Assay [1]

Cell Line:	HepG-2
Concentration:	5.7 nM
Incubation Time:	24 h

Result:	Inhibited cell migration by 71.25%.

REFERENCES

[1]. Mohammed Salah Ayoup, et al. Battle tactics against MMP-9; discovery of novel non-hydroxamate MMP-9 inhibitors endowed with PI3K/AKT signaling attenuation and caspase 3/7 activation via Ugi bis-amide synthesis. Eur J Med Chem. 2020 Jan 15;186:111875.

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