ASM-IN-1

Cat. No.: HY-149120

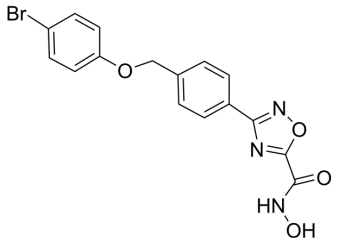
Molecular Formula: $C_{16}H_{12}BrN_3O_4$

Molecular Weight: 390.19

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

ASM-IN-1 is a potent and orally active acid sphingomyelinase (ASM) inhibitor with an IC_{50} value of 1.5 μM. ASM-IN-1 reduces lipid plaques in the aortic arch and aorta and reduces plasma ceramide concentration and Ox-LDL levels. ASM-IN-1 shows antiatherosclerotic and anti-inflammatory activity[1].

In Vitro

ASM-IN-1 (compound 4i) (0-20 μM) did not affect cell growth in HUVECs[1].
ASM-IN-1 (0, 1, 5 μM) reduces the expressions of IL-6 and TNF-α with LPS stimulated in a dose-dependent manner, decreases the expression of MCP-1 mRNA in HUVECs[1].
ASM-IN-1 (5 μM) reduces Ox-LDL-stimulated MCP-1 mRNA expression and restore IL-6 mRNA to a normal level[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	HUVECs
Concentration:	0.5, 1, 5, 10, 20 μM
Incubation Time:	24, 48 h
Result:	Showed no affect on cell growth.

In Vivo

ASM-IN-1 (1 mg/kg for i.v.; 10 mg/kg for p.o.) shows good pharmacokinetic properties with good oral bioavailability of 35.42% in ICR mice[1].
ASM-IN-1 (6, 12, 40 mg/kg; i.p.; twice a day for 8 weeks) antiatherosclerotic activity by inhibiting ASM in mice[1].
Pharmacokinetic Parameters of ASM-IN-1 in ICR mice[1].

parameter	iv	po
$T_{1/2}$ (h)	0.20 ± 0.04	0.83 ± 0.32
T_{max} (h)	0.083 ± 0.00	0.083 ± 0.00
C_{max} (ng/mL)	787 ± 64.7	2763 ± 485

AUC_{0-t} (h·ng/mL)	227 ± 14.3	805 ± 76.7
$AUC_{0-\infty}$ (h·ng/mL)	228 ± 15.1	809 ± 75.1
V_z (mL/kg)	1277 ± 216	
CL (mL/h/kg)	4390 ± 291	
MRT_{0-t} (h)	0.077 ± 0.012	0.32 ± 0.078
$MRT_{0-\infty}$ (h)	0.087 ± 0.019	0.35 ± 0.064
F (%)		35.42 ± 0.033%

ICR mice, 1 mg/kg iv ; 10 mg/kg po[1]

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

REFERENCES

[1]. Yang K, et al. Discovery of Novel N-Hydroxy-1,2,4-oxadiazole-5-formamides as ASM Direct Inhibitors for the Treatment of Atherosclerosis. J Med Chem. 2023 Feb 23;66(4):2681-2698.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA