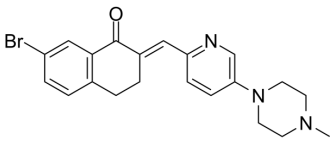
NLRP3-IN-32

Cat. No.:	HY-161329
Molecular Formula:	$C_{21}H_{22}BrN_3O$
Molecular Weight:	412.32
Target:	NOD-like Receptor (NLR); NF-κB; Reactive Oxygen Species; IKK
Pathway:	Immunology/Inflammation; NF-κB; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	NLRP3-IN-32 (compound 7a), a 3, 4-dihydronaphthalene-1(2H)-one derivative, is a potential NLRP3 inflammatory vesicles inhibitor. NLRP3-IN-32 can block the assembly and activation of NLRP3 inflammasome by down-regulating the expression of NLPR3 and apoptosis-associated speck-like protein containing a CARD (ASC), and inhibiting the production of reactive oxygen species (ROS) and other inflammatory mediators. NLRP3-IN-32 inhibits the phosphorylation of IκBα and NF-κB/p65 and the nuclear translocation of p65, thereby inhibiting NF-κB signaling[1].	
IC_{50} & Target	NLRP3 inflammasome	p65
In Vitro	NLRP3-IN-32 (compound 7a; 1.5, 3, 6 μM) can reverse the release of macrophage inflammatory factors TNF-α, IL-6, IL-18 and IL-1β under LPS (HY-D1056) stimulation in a dose-dependent manner in RAW246.7 cells[1]. NLRP3-IN-32 (1.5, 3, 6 μM) inhibits the activation of NLRP3 inflammatory vesicles by dose-dependently scavenging intracellular ROS and NO production by LPS[1]. NLRP3-IN-32 (1.5, 3, 6 μM) has low toxicity to RAW246.7 cells and has the apoptosis rates of 3.8%, 5.6%, and 6.8%, respectively[1]. NLRP3-IN-32 (1.5, 3, 6 μM; 24 h) shows the dose-dependent inhibition on the phosphorylation of IκBα and p65 phosphorylation levels stimulated with LPS (1.0 μg/mL; 2h) to inhibit NF-κB signaling pathway activation[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Wen-Xuan Li, et al. Discovery of anti-inflammatory agents from 3, 4-dihydronaphthalene-1(2H)-one derivatives by inhibiting NLRP3 inflammasome activation. Eur J Med Chem. 2024 Feb 29:268:116284.

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