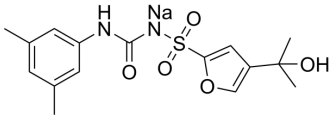
NLRP3-IN-9

Cat. No.:	HY-146802
CAS No.:	2768759-64-2
Molecular Formula:	$C_{16}H_{19}N_2NaO_5S$
Molecular Weight:	374.39
Target:	NOD-like Receptor (NLR)
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	NLRP3-IN-9 is a potent NLRP3 inhibitor. NLRP3-IN-9 inhibits IL-1β release. NLRP3-IN-9 reduces inflammation and mechanical hyperalgesia. NLRP3-IN-9 has the potential for the research of gout[1].
IC_{50} & Target	NLRP3

In Vitro

NLRP3-IN-9 (compound 4b) (0.01-3 μM) inhibits IL-1β release in a dose-dependent manner in ATP (5 mM) and LPS (1 μg/mL)-induced macrophages[1].

NLRP3-IN-9 (1 μM; 15 min) inhibits NLRP3 inflammasome oligomerization[1].

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

Western Blot Analysis[1]

Cell Line:	Macrophages
Concentration:	1 μM
Incubation Time:	15 min
Result:	Inhibited teh expression of IL-1β P17, Casp-1 p10 peotein levelwith the ATP (5 mM) and LPS (1 μg/mL)-induced in the supernatant of the cultures, without affecting the intracellular levels of their precursors.

In Vivo

NLRP3-IN-9 (3, 10 mg/kg; i.p.) reduces inflammation and mechanical hyperalgesia in a mouse model of acute gout[1].

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Animal Model:	3-4 month old male and female C57BL/6J WT and NLRP3-KO mice[1]
Dosage:	3, 10 mg/kg
Administration:	I.p.
Result:	Reduced paw swelling by 40% in males and 33% in females at 3 mg/kg, and 66% in males and 52% in females at 10 mg/kg in WT mouse.

REFERENCES

[1]. Narros-Fernández P, et al. Synthesis and Pharmacological Evaluation of New N-Sulfonylureas as NLRP3 Inflammasome Inhibitors: Identification of a Hit Compound to Treat Gout. J Med Chem. 2022 Apr 28;65(8):6250-6260.

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