

## NLRP3-IN-76

## Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

## Biological Description

Description	NLRP3-IN-76 is an orally active NLRP3 inhibitor that suppresses the production of NO and reduces the mRNA levels of pro-inflammatory cytokines (iNOS, IL-6, IL-1 $\beta$ , and TNF $\alpha$ ). It exerts anti-inflammatory effects by inhibiting the activation of the NLRP3 inflammasome and the NF- $\kappa$ B signaling pathway. Furthermore, NLRP3-IN-76 can ameliorate DSS-induced colitis and is applicable for studying inflammatory bowel disease (IBD).
Targets(IC50)	NF- $\kappa$ B, NOD-like Receptor (NLR), NO Synthase, Interleukin
In vitro	NLRP3-IN-76 (Compound ST12) at a concentration of 10 $\mu$ M for 24 hours reduces nitric oxide (NO) production by 52.67% in LPS-induced RAW264.7 cells. Additionally, NLRP3-IN-76 suppresses the mRNA levels of pro-inflammatory cytokines, such as inducible nitric oxide synthase (iNOS), IL-6, IL-1 $\beta$ , and TNF- $\alpha$ , in LPS-stimulated RAW264.7 cells. Furthermore, when used at concentrations ranging from 2.5 to 10 $\mu$ M for 24 hours, NLRP3-IN-76 inhibits NLRP3 inflammasome activation and NF- $\kappa$ B signaling pathway activation in LPS-stimulated RAW264.7 cells.
In vivo	NLRP3-IN-76 (Compound ST12) (35 mg/kg, administered via gavage for 9 days) safeguards mice from DSS-induced colitis by inhibiting the in vivo activation of the NLRP3 inflammasome. Additionally, NLRP3-IN-76 (100-400 mg/kg, orally) is well-tolerated in C57 mice, with an LD50 of 300 mg/kg.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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