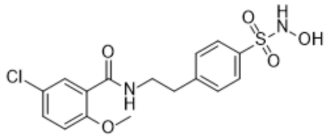
JC-171

Cat. No.:	HY-117432
CAS No.:	2112809-98-8
Molecular Formula:	$C_{16}H_{17}ClN_2O_5S$
Molecular Weight:	384.83
Target:	NOD-like Receptor (NLR)
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (649.64 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5986 mL	12.9928 mL	25.9855 mL
5 mM	0.5197 mL	2.5986 mL	5.1971 mL
10 mM	0.2599 mL	1.2993 mL	2.5986 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.40 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.40 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

JC-171 is a selective NLRP3 inflammasome inhibitor, with an IC_{50} of 8.45 μM for inhibiting LPS/ATP-induced interleukin-1β (IL-1β) release from J774A.1 macrophages[1].

IC_{50} & Target

NLRP3

In Vitro

JC-171 (0-100 μM) blocks NLRP3 inflammasome activation and IL-1β production in primary macrophages dose dependently [1].

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

Cell Viability Assay[1]

Cell Line:	J774A.1 murine macrophage cells
Concentration:	0-100 μM.
Incubation Time:	0.5 h (before LPS (1 μg/mL) treatment for 4.5 h).
Result:	Inhibited the release of IL-1β in J774A.1 cells upon stimulation with LPS/ATP.

In Vivo

JC-171 treatment delays the progression and reduces the severity of experimental autoimmune encephalomyelitis (EAE) in mouse[1].

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

Animal Model:	Mice immunized subcutaneously with 200 μg Myelin oligodendrocyte glycoprotein (MOG) $_{35–55}$ peptide emulsified in Complete Freund's Adjuvant (CFA) on day 0 followed by injection of 200 ng of pertussis toxin.
Dosage:	100 mg/kg, 10 mg/kg.
Administration:	IP days 0, 1 and 2; and every other days thereafter (100 mg/kg). Initiated when the clinical scores of individual mice have reached 1 (flaccid tail), and given every other day (10 mg/kg).
Result:	Efficiently suppressed EAE progression compared with vehicle treatment. Resulted in a substantial decrease in the frequency of $MOG_{35–55}$-specific Th17 cells in the spleens and spinal cords of EAE mice.

REFERENCES

[1]. Chunqing Guo, et al. Development and Characterization of a Hydroxyl-Sulfonamide Analogue, 5-Chloro-N-[2-(4-hydroxysulfamoyl-phenyl)-ethyl]-2-methoxy-benzamide, as a Novel NLRP3 Inflammasome Inhibitor for Potential Treatment of Multiple Sclerosis. ACS Chem Neurosci. 2017 Oct 18;8(10):2194-2201.

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