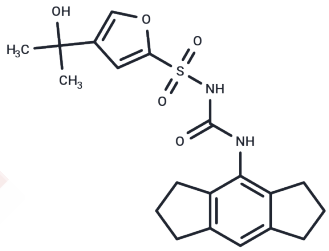
Data Sheet (Cat.No.T3701)

TargetMol

MCC950

Chemical Properties



CAS No. : 210826-40-7

Formula: C20H24N2O5S

Molecular Weight: 404.48

Storage: Store at low temperature
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	MCC950 (CP-456773) is a NLRP3 inflammasome inhibitor (IC50=7.5-8.1 nM). MCC950 can be used to treat inflammatory diseases, inflammation-related tumors and neurodegenerative diseases.
Targets(IC50)	NOD-like Receptor (NLR),NOD
In vitro	**METHODS**: HEK293 cells and HepG2 cells were treated with MCC950 and cytotoxicity was detected by Resazurin-based fluorescence assay. **RESULTS**: MCC950 is non-toxic to HEK293 cells (CC50> 62.5 μM) and HepG2 cells (CC50> 62.5 μM). [1] **METHODS**: Human THP-1 cells were treated with MCC950 for 72 hours and the cytotoxicity was detected by the CCK-8 method. **RESULTS**: MCC950 inhibited the growth of THP-1 cells (CC50=81.35 μM). [2] **METHODS**: Human THP-1 cells were treated with MCC950 for 72 hours and then cytotoxicity was detected by the MTT method. **RESULTS**: MCC950 inhibited the growth of THP-1 cells (IC50=98.83 μM). [3]
In vivo	**METHODS**: To study the anti-inflammatory effect of MCC950, mice were pre-treated with MCC950 for 1 hour and then intraperitoneally injected with LPS. **RESULTS**: It was detected 2 hours later that MCC950 could reduce the concentrations of IL-1β and IL-6 in serum, but had little effect on the amount of TNF-α, indicating that MCC950 was active in vivo. [4] **METHODS**: To study the anti-inflammatory effect of MCC950, 7-week-old Winnie mice (with Muc2 gene mutation and C57BL/6J background) were used and divided into the MCC950 treatment group and the control group, with 10 mice in each group. The mice in the treatment group were fed fresh feed paste containing 40mg/kg MCC950 every day, while the control group was fed feed paste without MCC950. The experiment lasted for 21 days. **RESULTS**: The DAI score of mice in the MCC950 treatment group was significantly reduced, indicating that the consistency of their feces and the blood conditions in the feces were improved. The colonic length of mice in the treatment group increased and the colonic weight decreased, indicating that colonic inflammation was alleviated. The H&E staining **RESULTS** showed that the colonic inflammation characteristics of mice in the MCC950 treatment group were significantly improved. [5] **METHODS**: To study the effect of MCC950 on non-obese diabetes, MCC950 was

In vivo	intraperitoneally injected into 11-week-old female non-obese diabetic (NOD) mice three times a week for three consecutive weeks. **RESULTS**: MCC950 treatment led to a significant reduction in salivary secretion and exacerbated the infiltration of white blood cells in the submandibular gland. In addition, it is accompanied by an increase in the number of T cells and B cells, an enhanced Th1 response, and a decrease in the expression of aquaporin 5 in the submandibular gland. [6]
Kinase Assay	Disk diffusion is conducted, except that 10 μg of each antibiotic compound is used per filter. Growth in liquid medium in the presence of CHIR-090 is evaluated as follows: cells from overnight cultures are inoculated into 50 mL portions of LB broth at an A600 of 0.02 and grown with shaking at 30°C. When the A600 reaches 0.15, parallel cultures are treated with either 6 μL of 500 μg/mL CHIR-090 in DMSO or 6 μL of DMSO. To assess cumulative growth, cultures are maintained in log phase growth by 10-fold dilution into pre-warmed medium, containing the same concentrations of DMSO or DMSO/CHIR-090, whenever the A600 reaches 0.4. The minimal inhibitory concentration is defined as the lowest antibiotic concentration at which no measurable bacterial growth is observed in LB medium containing 1% DMSO (v/v), when inoculated at a starting density of A600=0.01. Cultures are incubated with shaking for 24 h at 30°C in the presence of CHIR-090. Experiments are performed in triplicate[1].
Cell Research	MCC950 is dissolved in DMSO and stored, and then diluted with appropriate media before use[1]. BMDM are seeded at 5×105/mL or 1×106/mL, HMDM at 5×105/mL and PBMC at 2×106/mL or 5×106/mL in 96 well plates. The following day the overnight medium is replaced and cells are stimulated with 10 ng/mL LPS from Escherichia coli serotype EH100 (ra) TLRgrad for 3 h. Medium is removed and replaced with serum free medium (SFM) containing DMSO (1:1,000), MCC950 (0.001-10 μM), glyburide (200 μM), Parthenolide (10 μM) or Bayer cysteinyl leukotriene receptor antagonist 1-(5-carboxy-2{3-[4-(3-cyclohexylpropoxy)phenyl]propoxy}benzoyl)piperidine-4-carboxylic acid (40 μM) for 30 min. Cells are then stimulated with inflammasome activators: 5 mM adenosine 5'-triphosphate disodium salt hydrate (ATP) (1 h), 1 μg/mL Poly (deoxyadenylic-thymidylic) acid sodium salt (Poly dA:dT) transfected with Lipofectamine 200 (3-4 h), 200 μg/mL MSU (overnight) and 10 μM nigericin (1 h) or S. typhimurium UK-1 strain. Cells are also stimulated with 25 μg/mL Polyadenylic-polyuridylic acid (4 h). For non-canonical inflammasome activation cells are primed with 100 ng/mL Pam3CSK4 for 4 h, medium is removed and replaced with SFM containing DMSO or MCC950 and 2 μg/mL LPS is transfected using 0.25% FuGENE for 16 h. Supernatants are removed and analysed using ELISA kits. LDH release is measured using the CytoTox96 non-radioactive cytotoxicity assay[1].

Solubility Information

Solubility	DMSO: 83.33 mg/mL (206.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (8.16 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4723 mL	12.3616 mL	24.7231 mL
5 mM	0.4945 mL	2.4723 mL	4.9446 mL
10 mM	0.2472 mL	1.2362 mL	2.4723 mL
50 mM	0.0494 mL	0.2472 mL	0.4945 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

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