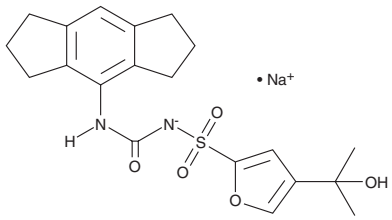
PRODUCT INFORMATION

MCC950 (sodium salt)

Item No. 34762

CAS Registry No.: 256373-96-3
Formal Name: N-[[(1,2,3,5,6,7-hexahydro-s-indacen-4-yl) amino]carbonyl]-4-(1-hydroxy-1-methylethyl)-2-furansulfonamide, monosodium salt
Synonym: CP 456,773
MF: $C_{20}H_{23}N_2O_5S \bullet Na$
FW: 426.5
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MCC950 (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the MCC950 (sodium salt) in the solvent of choice, which should be purged with an inert gas. MCC950 (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MCC950 (sodium salt) in ethanol and DMSO is approximately 10 mg/ml and approximately 14 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of MCC950 (sodium salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of MCC950 (sodium salt) in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

MCC950 is an inhibitor of NOD-like receptor protein 3 (NLRP3) inflammasome activation.[1] It inhibits ATP-induced IL-1β release in LPS-primed mouse bone marrow-derived macrophages (BMDMs; IC_{50} = 7.5 nM), as well as cytosolic LPS-induced IL-1β release in Pam_3CSK_4-primed mouse BMDMs at 0.1 and 1 µM, indicating inhibition of both canonical and non-canonical NLRP3 inflammasome activation, respectively. MCC950 is selective for NLRP3 over NLRC4 and absent in melanoma 2 (AIM2) inflammasomes and does not inhibit LPS-induced NLRP3 priming in mouse BMDMs at 10 µM. It reduces ox-LDL-induced increases in caspase-1 activity and inhibits pyroptosis in THP-1 macrophages when used at a concentration of 1 µM.[2] MCC950 (10 mg/kg) reduces myocardial fibrosis in mice following myocardial infarction induced by left coronary artery ligation.[3] It improves forelimb grip strength and reduces spinal edema in a mouse model of spinal crush injury at the same dose.[4]

References

1. Coll, R.C., Robertson, A.A.B., Chae, J.J., *et al. Nat. Med.* **21(3)**, 248-255 (2015).
2. Zeng, W., Wu, D., Sun, Y., *et al. Sci. Rep.* **11(1)**, 19305 (2021).
3. Gao, R., Shi, H., Chang, S., *et al. Int. Immunopharmacol.* **74**, 105575 (2019).
4. Jiao, J., Zhao, G., Wang, Y., *et al. Front. Mol. Biosci.* **7**, 37 (2020).

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