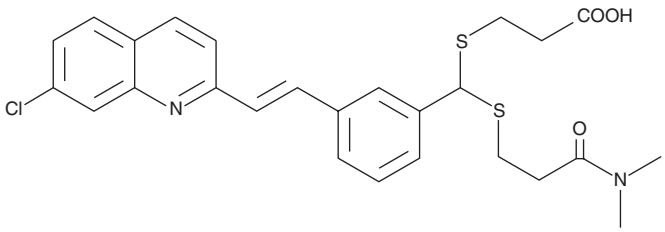
PRODUCT INFORMATION

MK-571

Item No. 10029

CAS Registry No.: 115104-28-4
Formal Name: 3-[[[3-[(1E)-2-(7-chloro-2-quinolinyl)ethenyl]phenyl][[3-(dimethylamino)-3-oxopropyl]thio]methyl]thio]-propanoic acid
Synonym: L-660,711
MF: $C_{26}H_{27}ClN_2O_3S_2$
FW: 515.1
Purity: ≥95%
UV/Vis.: λ_{max}: 226, 283, 327, 344, 357 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

MK-571 is supplied as a crystalline solid. A stock solution may be made by dissolving the MK-571 in the solvent of choice, which should be purged with an inert gas. MK-571 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MK-571 in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Description

MK-571 is a cysteinyl leukotriene 1 ($CysLT_1$) receptor antagonist (K_i = 2.1 nM in a radioligand binding assay using isolated human lung membranes).[1] It inhibits contractions induced by leukotriene D_4 (LTD_4; Item No. 20310) or LTE_4 (Item No. 20410) in histamine-primed isolated guinea pig trachea (pA_2s = 9.4 and 9.1, respectively), but does not inhibit contractions induced by LTC_4 (Item No. 20210) in histamine-primed isolated guinea pig trachea when used at a concentration of 190 nM. MK-571 (100 nM) inhibits LTD_4-induced calcium mobilization in COS-7 monkey kidney cells expressing the human $CysLT_1$ receptor in a reporter assay.[2] MK-571 (5 mg/kg) improves tissue damping and elasticity, markers of lung function, and decreases IL-4 and IL-5 levels in bronchoalveolar lavage fluid (BALF) in a mouse model of ovalbumin-induced asthma.[3]

References

1. Jones, T.R., Zamboni, R., Belley, M., *et al.* Pharmacology of L-660,711 (MK-571): A novel potent and selective leukotriene D_4 receptor antagonist. *Can. J. Physiol. Pharmacol.* **67(1)**, 17-28 (1989).
2. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al.* Characterization of the human cysteinyl leukotriene $CysLT_1$ receptor. *Nature* **399(6738)**, 789-793 (1999).
3. da Cunha, A.A., Silveira, J.S., Antunes, G.L., *et al.* Cysteinyl leukotriene induces eosinophil extracellular trap formation via cysteinyl leukotriene 1 receptor in a murine model of asthma. *Exp. Lung Res.* **47(8)**, 355-367 (2021).

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