

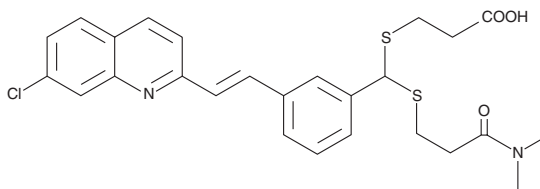
# PRODUCT INFORMATION



## MK-571

Item No. 10029

**CAS Registry No.:** 115104-28-4  
**Formal Name:** (E)-3-[[[3-[2-(7-chloro-2-quinolinyl)ethenyl]phenyl][[3-(dimethylamino)-3-oxopropyl]thio]methyl]thio]-propanoic acid  
**Synonym:** L-660,711  
**MF:** C<sub>26</sub>H<sub>27</sub>ClN<sub>2</sub>O<sub>3</sub>S<sub>2</sub>  
**FW:** 515.1  
**Purity:** ≥95%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 226, 283, 327, 344, 357 nm



### Laboratory Procedures

For long term storage, we suggest that MK-571 be stored as supplied at -20°C. It should be stable for at least one year.

MK-571 is supplied as a crystalline solid. A stock solution may be made by dissolving the MK-571 in an organic solvent 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.

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 MK-571 can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of MK-571 in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

The cysteinyl leukotrienes (CysLTs), leukotriene C<sub>4</sub> (LTC<sub>4</sub>), LTD<sub>4</sub>, and LTE<sub>4</sub>, mediate their actions through two distinct G protein-coupled receptors. LTD<sub>4</sub> is the preferred ligand for the CysLT<sub>1</sub> receptor, whereas LTC<sub>4</sub> and LTD<sub>4</sub> bind with approximately equal affinity to the CysLT<sub>2</sub> receptor.<sup>1,2</sup> MK-571 is a selective, orally active CysLT<sub>1</sub> receptor antagonist.<sup>3</sup> It blocks the binding of LTD<sub>4</sub>, but not LTC<sub>4</sub>, to human and guinea pig lung membranes with K<sub>i</sub> values of 0.22 and 2.1 nM, respectively, which is indicative of CysLT<sub>1</sub> receptor-mediated activity in these preparations.<sup>3</sup> MK-571 effectively blocks LTD<sub>4</sub> activation of recombinant human and murine CysLT<sub>1</sub> receptors,<sup>1,4</sup> but is ineffective at blocking LTC<sub>4</sub> or LTD<sub>4</sub> activation of the recombinant human and murine CysLT<sub>2</sub> receptors.<sup>2,4</sup> MK-571 is also a potent inhibitor of the multidrug resistant protein 1 (MRP1).<sup>5,6</sup>

### References

1. Lynch, K.R., O'Neill, G.P., Liu, Q., et al. *Nature* **399**, 789-793 (1999).
2. Heise, C.E., O'Dowd, B.F., Figueroa, D.J., et al. *J. Biol. Chem.* **275**, 30531-30536 (2000).
3. Jones, T.R., Zamboni, R., Belley, M., et al. *Can. J. Physiol. Pharmacol.* **67**, 17-28 (1989).
4. Ogasawara, H., Ishii, S., Yokomizo, T., et al. *J. Biol. Chem.* **277**(21), 18763-18768 (2002).
5. Dallas, S., Zhu, X., Baruchel, S., et al. *J. Pharmacol. Exp. Ther.* **307**(1), 282-290 (2003).
6. Karwatsky, J., Daoud, R., Cai, J., et al. *Biochemistry* **42**, 3286-3294 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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