

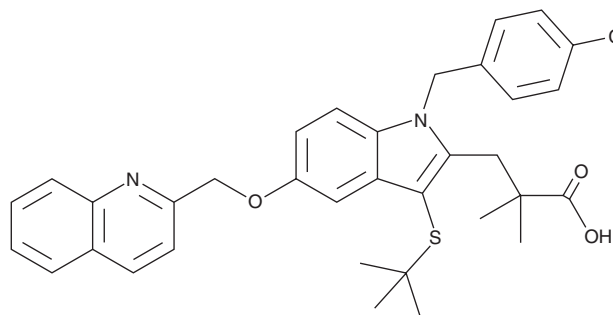
PRODUCT INFORMATION



MK-0591

Item No. 37322

CAS Registry No.: 136668-42-3
Formal Name: 1-[(4-chlorophenyl)methyl]-3-[(1,1-dimethylethyl)thio]- α,α -dimethyl-5-(2-quinolinylmethoxy)-1H-indole-2-propanoic acid
Synonyms: L-686,708, Quiflapon
MF: C₃₄H₃₅ClN₂O₃S
FW: 587.2
Purity: \geq 98%
UV/Vis.: λ_{max} : 230 nm
Supplied as: A solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

MK-0591 is supplied as a solid. A stock solution may be made by dissolving the MK-0591 in the solvent of choice, which should be purged with an inert gas. MK-0591 is soluble in the organic solvent DMSO at a concentration of approximately 50 mg/ml.

Description

MK-0591 is an inhibitor of 5-lipoxygenase-activating protein (FLAP; IC₅₀ = 1.6 nM for the human enzyme).¹ It inhibits leukotriene B₄ (LTB₄; Item No. 20110) biosynthesis in isolated rat neutrophils stimulated with the calcium ionophore A23187 (Item No. 11016; IC₅₀ = 6 nM) but does not inhibit 5-lipoxygenase (5-LO) in a cell-free assay (IC₅₀ = > 4 μ M for the rat enzyme). MK-0591 (0.3 and 1 mg/kg) prevents increases in airway resistance and decreases in dynamic compliance in *Ascaris* antigen-induced squirrel monkeys. It decreases proteinuria and reduces decreases in renal LTC₄ synthase activity in a rat model of glomerulonephritis induced by nephrotoxic rabbit serum when administered at a dose of 60 mg/kg.² MK-0591 (8 μ M) also induces apoptosis in LNCaP prostate cancer cells.³

References

1. Brideau, C., Chan, C., Charleson, S., *et al.* Pharmacology of MK-0591 (3-[1-(4-chlorobenzyl)-3-(*t*-butylthio)-5-(quinolin-2-yl-methoxy)-indol-2-yl]-2,2-dimethyl propanoic acid), a potent, orally active leukotriene biosynthesis inhibitor. *Can. J. Physiol. Pharmacol.* **70(6)**, 799-807 (1992).
2. Petric, R., and Ford-Hutchinson, A. Inhibition of leukotriene biosynthesis improves renal function in experimental glomerulonephritis. *J. Lipid Mediat. Cell Signal* **11(3)**, 231-240 (1995).
3. Sarveswaran, S., Myers, C.E., and Ghosh, J. MK591, a leukotriene biosynthesis inhibitor, induces apoptosis in prostate cancer cells: Synergistic action with LY294002, an inhibitor of phosphatidylinositol 3'-kinase. *Cancer Lett.* **291(2)**, 167-176 (2010).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM