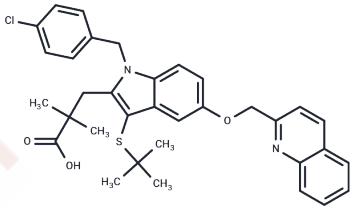
Data Sheet (Cat.No.T16087)

TargetMol

Quiflapon

Chemical Properties



CAS No. : 136668-42-3

Formula: C34H35ClN2O3S

Molecular Weight: 587.17

Storage: 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	Quiflapon (MK-591) causes cell apoptosis. Quiflapon is a selective and specific 5-lipoxygenase-activating protein (FLAP) inhibitor (IC50: 1.6 nM in a FLAP binding assay) and is also an effective and orally active Leukotriene biosynthesis (LT) inhibitor (IC50: 3.1 and 6.1 nM in intact human and elicited rat PMNLs, respectively).
Targets(IC50)	Apoptosis,FLAP
In vitro	Quiflapon is an effective inhibitor of leukotriene (LT) biosynthesis in the human, squirrel monkey, and rat whole blood (IC50: 510, 69, and 9 nM, respectively). Quiflapon has a high affinity for 5-lipoxygenase activating protein (FLAP) as evidenced by an IC50 value of 1.6 nM in a FLAP binding assay and inhibition of the photoaffinity labeling of FLAP by two different photoaffinity ligands. However, Quiflapon has no effect on rat 5-lipoxygenase. The inhibition of activation of 5-lipoxygenase was shown through inhibition of the translocation of the enzyme from the cytosol to the membrane in human PMNLs[1].
In vivo	Pups were treated with either vehicle or Quiflapon(10, 20, or 40 mg/kg; daily for days 1-4, 5-9, or 10-14) subcutaneously. On day 14, the lungs were inflated, fixed, and stained for histopathological and morphometric analyses. Inhibition of antigen-induced bronchoconstriction by Quiflapon is observed in inbred rats pretreated with methysergide, Ascaris-challenged squirrel monkeys, and Ascaris-challenged sheep (early and late phase response) [1]. Hyperoxia groups treated with Quiflapon untreated hyperoxia groups displayed definite evidence of aberrant alveolarization but no inflammation[2].

Solubility Information

Solubility	DMSO: ≥ 50 mg/mL (85.15 mM),Sonication is recommended. H2O: < 0.1 mg/mL (insoluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (4.26 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	1.7031 mL	8.5154 mL	17.0308 mL
5 mM	0.3406 mL	1.7031 mL	3.4062 mL
10 mM	0.1703 mL	0.8515 mL	1.7031 mL
50 mM	0.0341 mL	0.1703 mL	0.3406 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.

Reference

Brideau C, 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. 1992 Jun;70(6):799-807.

Nasri M, Dannenmann B, Doll L, et al.Flavopiridol restores granulopoiesis in experimental models of severe congenital neutropenia.Molecular Therapy.2024

Park MS, et al. 5-Lipoxygenase-activating protein (FLAP) inhibitor MK-0591 prevents aberrant alveolarization in newborn mice exposed to 85% oxygen in a dose- and time-dependent manner. Lung. 2011 Feb;189(1):43-50.