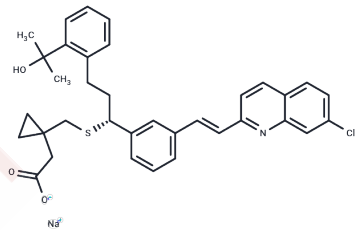
Data Sheet (Cat.No.T1677L)

TargetMol

Montelukast sodium

Chemical Properties



CAS No. : 151767-02-1

Formula: C35H35ClNNaO3S

Molecular Weight: 608.17

Storage: The compound is unstable in solution. Please use soon
Pure form: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Montelukast sodium (MK0476) is an orally available leukotriene receptor antagonist which is widely used for the prophylaxis and chronic treatment of asthma and has been linked to rare cases of clinically apparent liver injury.
Targets(IC50)	LTR,Leukotriene Receptor
In vitro	Administering 6 mg/kg of Montelukast once daily for 20 days significantly inhibits the increase of eosinophils in both the BAL fluid and lung tissue in mice stimulated by OVA, while also elevating the IL-5 levels in the BAL fluid. OVA stimulation leads to an upsurge in CysLT1 receptor mRNA expression but a decrease in CysLT2 receptor mRNA expression. Following OVA stimulation, Montelukast suppresses the elevated expression of CysLT1 without diminishing the expression of CysLT2.
In vivo	Montelukast acts by binding to the cysteinyl leukotriene receptor CysLT1 in the lungs and bronchi, thereby blocking the effects of leukotriene D4. This action prevents airway edema, smooth muscle contraction, and secretion of viscous liquids, reduces bronchoconstriction caused by leukotrienes, and diminishes inflammation occurrence.
Cell Research	Nasal mucosa and polyp epithelial cells are stimulated with fetal bovine serum (FBS) with or without MK for 24 hours, and cytokine concentrations in epithelial secretions are measured by ELISA. After incubating peripheral blood eosinophils with epithelial cell-conditioned media (ECM) with or without montelukast up to 3 days, eosinophil survival is assessed by Trypan blue dye exclusion[1].

Solubility Information

Solubility	H2O: 30.4 mg/mL (49.99 mM),Sonication is recommended. (The compound is unstable in solution, please use soon.) DMSO: 250 mg/mL (411.07 mM),Sonication is recommended. The compound is unstable in solution, please use soon. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6443 mL	8.2214 mL	16.4428 mL
5 mM	0.3289 mL	1.6443 mL	3.2886 mL
10 mM	0.1644 mL	0.8221 mL	1.6443 mL
50 mM	0.0329 mL	0.1644 mL	0.3289 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

Chen X,et al.Computational screening of biomarkers and potential drugs for arthrofibrosis based on combination of sequencing and large nature language model.Journal of Orthopaedic Translation.2024, 44: 102-113.
Kou Y, Zhang S, Chen J, et al.A mouse protozoan boosts antigen-specific mucosal IgA responses in a specific lipid metabolism-and signaling-dependent manner.Nature Communications.2024, 15(1): 7914.
Zhang YJ, et al. Acta Pharmacol Sin, 2004, 25(10), 1341-1346