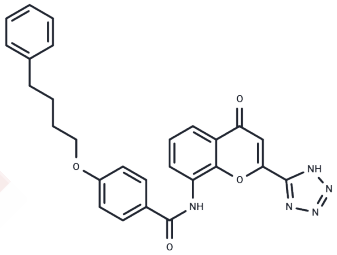
Data Sheet (Cat.No.T0694)

TargetMol

Pranlukast

Chemical Properties



CAS No. : 103177-37-3

Formula: C27H23N5O4

Molecular Weight: 481.5

Storage: Store at low temperature,Keep away from moisture
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	Pranlukast (ONO-1078) is a cysteinyl leukotriene receptor-1 antagonist. It antagonizes or reduces bronchospasm caused, principally in asthmatics, by an allergic reaction to accidentally or inadvertently encountered allergens.
Targets(IC50)	NF-κB,Endogenous Metabolite,LTR,IL Receptor,Leukotriene Receptor,TNF
In vitro	Pranlukast significantly reduces the volume of injury in the cortical and hippocampal CA1 regions of the ischemic hemisphere in mice and increases neuronal density. Additionally, Pranlukast markedly thins the scar wall in the ischemic hemisphere of mice.
In vivo	In sensitized guinea pig tracheas, 5 mM of either Pranlukast or Zafirlukast significantly inhibited ovalbumin-induced secretion by 70% and 65%, respectively. These compounds also markedly inhibited 35SO4 release triggered by 10 mM LTD4 in a concentration-dependent manner, with Pranlukast showing a peak inhibition of 83% and Zafirlukast 78% at 10 mM, having IC50 values of 0.3 mM and 0.6 mM, respectively. Pranlukast suppressed the activation of NF-κB in 1.3% DMSO-differentiated U-937 and Jurkat cells, with inhibition rates of 40% and 30%; it also demonstrated a dose-dependent inhibition of NF-κB activation in combination with MK-571. Pranlukast and MK-571 diminished LPS-induced IL-6 production in PBMCs by approximately 65% and 15%. Additionally, Pranlukast inhibited the activation of NF-κB induced by phorbol 12-myristate 13-acetate and significantly reduced LPS-induced MUC2 mRNA expression in NCI-H292 cells, as determined by reverse transcription-polymerase chain reaction. Pranlukast also suppressed the expression of the MUC2 gene in LPS-stimulated HM3-MUC2 cells.

Solubility Information

Solubility	DMSO: 45 mg/mL (93.46 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (4.15 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	2.0768 mL	10.3842 mL	20.7684 mL
5 mM	0.4154 mL	2.0768 mL	4.1537 mL
10 mM	0.2077 mL	1.0384 mL	2.0768 mL
50 mM	0.0415 mL	0.2077 mL	0.4154 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

Ichiyama T, et al. Clin Exp Allergy,2003, 33(6), 802-807.
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Chen X, Li C, Wang Z, 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.
Liu YC, et al. Br J Pharmacol,1998, 124(3), 563-571.
Ishinaga H, et al. Pharmacology,2005, 73(2), 89-96.
Yu GL, et al. Brain Res. 2005 Aug 16;1053(1-2):116-25.
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