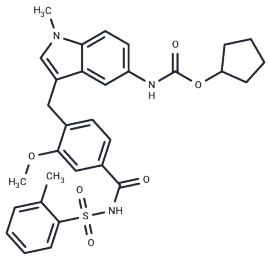
Data Sheet (Cat.No.T6736)

TargetMol

Zafirlukast

Chemical Properties



CAS No. : 107753-78-6

Formula: C31H33N3O6S

Molecular Weight: 575.68

Storage: Store at low temperature
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	Zafirlukast (ICI 204219) is an orally active leukotriene D4 receptor (LTD4) antagonist (IC50=0.6 μM). Zafirlukast has anti-asthmatic, anti-inflammatory, and antimicrobial properties and is used in the prevention and treatment of asthma.
Targets(IC50)	Leukotriene Receptor
In vitro	**METHODS**: Loucy cells were treated with THZ1 (0.8-500 nM) for 4 h. Binding was detected by LanthaScreen Eu Kinase Binding assay. **RESULTS**: THZ1 showed time-dependent inhibition of CDK7 in vitro and covalent binding of intracellular CDK7. [1] **METHODS**: NSCLC cell lines H1299, A549 and H292 were treated with THZ1 (10-10000 nM) for 48 h. Cell viability was measured by crystal violet assay. **RESULTS**: THZ1 dose-dependently inhibited the migration and proliferation of NSCLC cells. [2]
In vivo	**METHODS**: To detect anti-tumor activity in vivo, THZ1 (10 mg/kg) was injected intravenously twice daily for 28 days into NU/NU mice bearing MYCN-amplified human NB xenografts. **RESULTS**: THZ1 inhibited tumor growth in the human MYCN-amplified NB mouse model. [3] **METHODS**: To detect the antitumor activity in vivo, THZ1 (10 mg/kg) was injected intraperitoneally into NSG mice bearing KYSE510 tumors twice daily for 24 days. **RESULTS**: THZ1 inhibited the growth of KYSE510 xenografts and suppressed lung metastasis in the NSG mouse model. [4]

Solubility Information

Solubility	DMSO: 105 mg/mL (182.39 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (6.95 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*

In vivo Formulation	*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	1.7371 mL	8.6854 mL	17.3708 mL
5 mM	0.3474 mL	1.7371 mL	3.4742 mL
10 mM	0.1737 mL	0.8685 mL	1.7371 mL
50 mM	0.0347 mL	0.1737 mL	0.3474 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

Shi S, et al. Zafirlukast inhibits the growth of lung adenocarcinoma via inhibiting TMEM16A channel activity. J Biol Chem. 2022 Mar;298(3):101731.

Capoci I R G, Faria D R, Sakita K M, et al. Repurposing approach identifies new treatment options for invasive fungal disease. Bioorganic Chemistry. 2019 Mar;84:87-97

Zhang S, Gao C, Das T, et al. The spike-ACE2 binding assay: An in vitro platform for evaluating vaccination efficacy and for screening SARS-CoV-2 inhibitors and neutralizing antibodies. Journal of Immunological Methods. 2022: 113244.

Holbrook LM, et al. Zafirlukast is a broad-spectrum thiol isomerase inhibitor that inhibits thrombosis without altering bleeding times. Br J Pharmacol. 2021 Feb;178(3):550-563.

Capoci I R G, Faria D R, Sakita K M, et al. Repurposing approach identifies new treatment options for invasive fungal disease[J]. Bioorganic chemistry. 2019 Mar;84:87-97.