Product Data Sheet

Product Name: AM679
Cat. No.: GC17220

Chemical Properties

Cas. No.	1206880-66-1		
Chemical Name	3-[5-[[(2S)-1-acetyl-2,3-dihydroindol-2-yl]methoxy]-3-tert-butylsulfanyl-1-[[4-(5-methoxypyrimidin-2-yl)phenyl]methyl]indol-2-yl]-2,2-dimethylpropanoic acid		
SMILES	CC(=O)N1C(CC2=CC=CC=C21)COC3=CC4=C(C=C3)N(C(=C4SC(C)(C)C)CC(C)(C)C(=O)O)CC5=CC=C(C=C5)C6=NC=C(C=N6)OC		
Formula	$C_{40}H_{44}N_4O_5S$	M.Wt	692.87
Solubility	DMF: 10 mg/ml,DMSO: 14 mg/ml,Ethanol: 10 mg/ml	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	AM679		

Background

AM679 is a topically applied and potent 5-lipoxygenase-activating protein (FLAP) inhibitor with an IC50 value of 2.2 nM [1] [2].

FLAP and 5-lipoxygenase (5-LO) together convert membrane-derived arachidonic acid to the pro-inflammatory mediator leukotriene epoxide LTA4. LTA4 is hence rapidly converted into either LTB4 by LTA4 hydrolase or LTC4 by LTC4 synthase [2].

Incubation with AM679 for an extended time period (5 h) increased the potency of human blood against LTB4 production with an IC50 value of 53 nM. This time-dependent increase also happened with an IC50 value of 9 nM in rat blood incubated with AM679 for 4 h [2].

Cysteinyl leukotrienes (CysLTs) are known as promoters of inflammation and allergy.

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Mouse eye infected by RSV began to show increased ocular CysLTs 4 days after infection. AM679 decreased the peak 6- to 8-day of ocular CysLTs by more than 90%. By day 10, concentrations of CysLT for both AM679-treated mouse eyes and control had almost returned to the baseline. A strong correlation between RSV and IL-4 mRNA had been found for human allergic conjunctivitis. 6 days after RSV infection, IL-4 mRNA concentrations were significantly elevated in RSV-infected mouse eyes. Around 14 days, IL-4 mRNA concentrations were hence gradually decreased to near baseline. AM679 could inhibit more than 80% of the IL-4 increase resulted from RSV infection [1].

References:

[1]. Alla Musiyenko, Lucia Correa, Nicholas Stock, et al. A Novel 5-Lipoxygenase-Activating Protein Inhibitor, AM679, Reduces Inflammation in the Respiratory Syncytial Virus-Infected Mouse Eye. Clinical and Vaccine Immunology, 2009, 16(11):1654-1659.

[2]. Nicholas Stock, Christopher Baccei, Gretchen Bain, et al. 5-Lipoxygenase-activating protein inhibitors. Part 2: 3-{5-((S)-1-Acetyl-2,3-dihydro-1H-indol-2-ylmethoxy)-3-tert-butylsulfanyl-1-[4-(5-methoxy-pyrimidin-2-yl)-benzyl]-1H-indol-2-yl}-2,2-dimethyl-propionic acid (AM679)—A potent FLAP inhibitor. Bioorganic & Medicinal Chemistry Letters, 2010, 20:213-217.

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