Product Data Sheet

Product Name: A 943931 dihydrochloride
Cat. No.: GC11121

Chemical Properties

Cas. No.	1227675-50-4		
Chemical Name	(R)-1-(2-imino-2,5,6,7-tetrahydro-1H-benzo[6,7]cyclohepta[1,2-d]pyrimidin-4-yl)pyrrolidin-3-amine dihydrochloride		
SMILES	N[C@]1([H])CCN(C(C2=C(N3)C4=CC=CC=C4CCC2)=NC3=N)C1.Cl.Cl		
Formula	$C_{17}H_{21}N_5$.2HCl	M.Wt	368.31
Solubility	<36.83mg/ml in Water; <36.83mg/ml in DMSO	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	A 943931 dihydrochloride		

Background

A 943931, is an H4R (one of histamine receptor subtypes) antagonist [1] with high affinities to H4Rs of human (Ki = 5 nM), rat (Ki = 4 nM) and mouse (Kb = 6 nM) [2].

H4R is one of 4 known G-protein-coupled receptors (H1, H2, H3 and H4 receptors) of histamine for histamine to mediate its physiological functions [3].

HMC-1 cells incubated with A 943931 at a concentration of 300 nM for 20 min inhibited the increase in ALDH2 activity induced by H4R [4]. In microglia, A 943931 at a concentration of 10 μM partially abolish the release of TNF-α and IL-6 induced by histamine at a concentration of 0.1 μg/ml [5]. In bone marrow-derived mast cells, A 943931 inhibited the shape change induced by histamine (IC50 = 0.38 μM) [6].

Intraperitoneal administration of A 943931 at a dose of 33 μmol/kg potently inhibited itch induced by H4R agonist in mice [6]. In several preclinical models, H4R had been shown to be linked to inflammation [7]. A 943931 had excellent antagonistic activity

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both in vivo and in vitro across multiple species, displayed good oral bioavailability (90%) and excellent metabolic stability. This compound displays good efficacy in rat pain models and is a good anti-inflammatory agent in mice [8]. A 943931 has an in vivo oral bioavailability of 34% and a half-life of 2.6 h in rats [2]. A 943931 efficaciously reduced acute inflammatory pains induced by formalin in the flinch model and by carrageenan in mechanical and thermal hyperalgesia models in rats [9].

References:

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