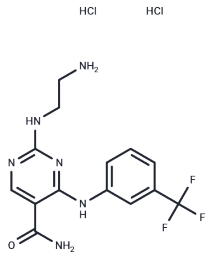
Data Sheet (Cat.No.T4391)

TargetMol

Syk Inhibitor II dihydrochloride

Chemical Properties



CAS No. : 227449-73-2

Formula: C14H17Cl2F3N6O

Molecular Weight: 413.22

Storage: 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	Spleen tyrosine kinase (Syk) is a non-receptor tyrosine kinase that, upon phosphorylation, binds to immunoreceptor tyrosine-based activation motifs of FcRγ chains and mediates downstream signaling related to platelet function and inflammation. Syk inhibitor II is a cell-permeable, pyrimidine-carboxamide compound that selectively and reversibly blocks Syk (IC50 = 41 nM) in an ATP-competitive manner. It is much less potent against PKCε, PKCβII, ZAP-70, Btk, and Itk (IC50s = 5.1, 11, 11.2, 15.5, and 22.6 μM, respectively).
Targets(IC50)	5-HT Receptor,Syk,BTK,PKC,Tyrosine Kinases
In vitro	Syk inhibitor II has been shown to prevent FcεRI-mediated 5-HT release in RBL-2H3 cells in vitro (IC50 = 460 nM).
In vivo	Syk inhibitor II has been shown to inhibit passive cutaneous anaphylaxis reactions in mice (ID50 = 13.2 mg/kg, s.c.).
Kinase Assay	A 2 μM portion of DMSO solution of each compound to be tested was added to each well containing 50 ll of a reaction solution [composition: 20–200 ng of recombinant kinase, 50 mM Tris-HCl (pH 7–8), 10 mM MgCl2 or MnCl2, 50 mM NaCl, 1 mM DTT, optimum concentration of the substrate peptide, and 0.1 lCi [c 33P]ATP (10 mCi/mL, Amersham)]. This was prepared in OptiplateTM (PACKARD) and allowed to stand at room temperature for 1 h to effect tyrosine phosphorylation. The reaction was terminated by adding PBS containing 0.25 mg SPA beads, 50 lM ATP, 5 mM EDTA, and 1% Triton X-100 in an amount of 150 ll per well. The plate was sealed, stirred, allowed to stand at room temperature for 15 min, and then centrifuged at 1500 rpm for 3 min to effect precipitation of the SPA beads. Radioactivity of each well was measured using TOP COUNT (PACKARD), and the tyrosine phosphorylation activity by the kinases was calculated. They are for reference only.
Animal Research	ICR mice were passively sensitized by subcutaneously injectinganti-dinitrophenyl (DNP)-coupled IgE under the right ear pinna, while lightly anesthetizing with ether. After 24hr, each mouse was challenged by injecting amixture of DNP-conjugated bovine serum albumin and 200 μl of 0.5% Evans blue solution via the tail vein to induce passive cutaneous anaphylaxis. Thirty minutes after the challenge, the mice were sacrificed to take both ears and the amount of dye from the blueing region was measured. Test compounds or vehicle alone as a control were subcutaneously administered to the mice 30 minbefore the antigen challenge. The dye in the tissues was extracted with

Animal Research	formamide and colorimetrically determined at 620 nm. A value obtained by subtracting the dye content of the left ear from the dye content of the right ear was used as the amount of dye leaked into the tissues by the PCA reaction.

Solubility Information

Solubility	PBS(pH7.2): 10 mg/mL (24.2 mM),Sonication is recommended. Ethanol: 0.3 mg/mL (0.73 mM),Sonication is recommended. DMSO: 11 mg/mL (26.62 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.420 mL	12.1001 mL	24.2002 mL
5 mM	0.484 mL	2.420 mL	4.840 mL
10 mM	0.242 mL	1.210 mL	2.420 mL
50 mM	0.0484 mL	0.242 mL	0.484 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

Hisamichi H, etal. Synthetic studies on novel Syk inhibitors. Part 1: Synthesis and structure-activity relationships of pyrimidine-5-carboxamide derivatives[J]. Bioorganic & medicinal chemistry, 2005, 13(16): 4936-4951.