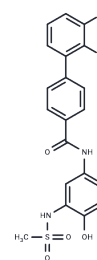


ITK-IN-6

Chemical Properties

CAS No. :	2616666-32-9
Formula:	C ₂₀ H ₁₆ Cl ₂ N ₂ O ₄ S
Molecular Weight:	451.32
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	ITK-IN-6 is a potent and selective ITK inhibitor (K _d = 387 nM). It binds directly to the ITK kinase domain. This compound prevents the release of pro-inflammatory cytokines and the activation and differentiation of Th2 and Th17 cells. ITK-IN-6 improves asthma progression by reducing inflammatory cell infiltration, mucus production, and IgE generation. It significantly inhibits airway inflammation and is used in asthma research.
Targets(IC50)	Tyrosine Kinases
In vitro	ITK-IN-6 (Compound C-161) demonstrates a 62.27% inhibition of ITK downstream transcriptional activity after 24 hours in the Jurkat-NFAT-Luc stable cell line. At concentrations of 0.07-5 μM for 12 hours, ITK-IN-6 shows good safety in CD4+ T cells and reduces Th2 and Th17 differentiation in vitro. With exposure of 0.15-2.5 μM for 12 hours, it blocks key T cell activation factors and inhibits T cell surface activation markers in Jurkat cells. ITK-IN-6 (0.625-2.5 μM, 12 h) specifically inhibits ITK and hinders proximal T cell receptor signaling, significantly suppressing CD69 expression in Jurkat T cells. It also suppresses IL-2 expression in a dose-dependent manner at both transcriptional and protein levels in Jurkat cells, with an IC ₅₀ of 494 nM. Furthermore, treatment with 0.625-2.5 μM ITK-IN-6 for 30 minutes significantly reduces intracellular Ca ²⁺ flux induced by anti-CD3 in Jurkat cells.
In vivo	ITK-IN-6 (Compound C-161) administered intraperitoneally at 10 mg/kg once daily from days 7 to 11, effectively alleviates airway inflammation in C57BL/6J mice induced by house dust mites. It achieves this by inhibiting Th2/Th17 differentiation and cytokine production, while demonstrating a good safety profile.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2157 mL	11.0786 mL	22.1572 mL
5 mM	0.4431 mL	2.2157 mL	4.4314 mL
10 mM	0.2216 mL	1.1079 mL	2.2157 mL
50 mM	0.0443 mL	0.2216 mL	0.4431 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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