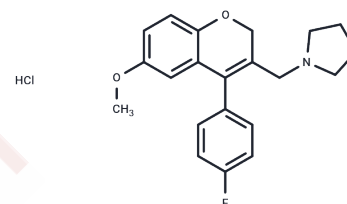


AX-024 hydrochloride

Chemical Properties

CAS No. :	1704801-24-0
Formula:	C ₂₁ H ₂₃ ClFNO ₂
Molecular Weight:	375.87
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	AX-024 hydrochloride (AX-024 HCl) is an cytokine release inhibitor which can strongly inhibit the production of interleukin-6 (IL-6), tumor necrosis factor- α (TNF α), interferon- γ (IFN- γ), IL-10 and IL-17A.
Targets(IC50)	COX,IFNAR,IL Receptor,Interleukin,TNF
In vitro	Compound AX-024 hydrochloride exhibits over 10,000 times greater efficacy than its precursor, AX-000, in inhibiting TCR-triggered T cell proliferation, with an IC ₅₀ value of 1 nM and showing effects at concentrations as low as 1 pM. Additionally, it significantly outperforms AX-000 in suppressing cytokine release from human peripheral blood mononuclear cells activated with anti-CD3, effectively reducing the production of IL-6, TNF α , IFN- γ , IL-10, and IL-17A at a 10 nM concentration. In OT1 TCR transgenic (OT1Tg) mice with wild-type (WT) cells, AX-024 hydrochloride robustly inhibits T cell proliferation at a 0.1 nM concentration when the OT1Tg T cells are WT for the PRS mutation. Furthermore, coimmunoprecipitation experiments have demonstrated that Nck recruitment to the TCR is blocked by AX-024 hydrochloride in a concentration-dependent manner starting at 1 nM, indicating the compound's potent inhibitory action on T cell activation processes.
In vivo	Treatment with AX-024 hydrochloride results in a significant reduction of scales and skin thickening when compared to the vehicle-treated group, demonstrating particular effectiveness in diminishing the thickening of the dermis to levels akin to those observed in mice treated with a control cream without imiquimod (IMQ). Additionally, administration of AX-024 hydrochloride notably reduces the number of airway inflammatory cells and facilitates rapid recovery from neurological impairment and weight loss in mice. By day 30, mice treated with AX-024 hydrochloride become symptom-free, contrasting sharply with vehicle-treated mice, which continue to exhibit symptoms such as ataxia and loss of the righting reflex.
Cell Research	Spleen B cells from C57BL/6 mice are labeled with Cell Trace Violet and incubated for 72 hours with either anti-IgM (10 mg/mL) or anti-CD40 (5 mg/mL), supplemented with IL-4 (5 ng/mL) or LPS (2.5 mg/mL) in the presence of different concentrations of AX-024 hydrochloride. Proliferation is calculated according to the total number of cell divisions. They are for reference only.
Animal Research	Eight-week-old CD-1 mice are injected intraperitoneally with different amounts of the AX-024 hydrochloride dissolved in 0.5 mL of saline. All animals are observed Clinically for the appearance of macroscopically visible adverse reactions twice daily over 14

A DRUG SCREENING EXPERT

Animal Research	days, as well as immediately after AX-024 hydrochloride administration. A necropsy is carried out on each animal on day 14, and the abdominal, thoracic, and cranial cavities are examined in situ, together with their associated organs. They are for reference only.
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Solubility Information

Solubility	DMSO: 45 mg/mL (119.72 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (5.32 mM),Sonication is recommended. <i>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 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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6605 mL	13.3025 mL	26.6049 mL
5 mM	0.5321 mL	2.6605 mL	5.321 mL
10 mM	0.266 mL	1.3302 mL	2.6605 mL
50 mM	0.0532 mL	0.266 mL	0.5321 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

Borroto A, etal. First-in-class inhibitor of the T cell receptor for the treatment of autoimmune diseases. Sci Transl Med. 2016 Dec 21;8(370):370ra184.

Li Y, Lai J, Ran M, et al.Alnustone promotes megakaryocyte differentiation and platelet production via the interleukin-17A/interleukin-17A receptor/Src/RAC1/MEK/ERK signaling pathway.European Journal of Pharmacology.2024: 176548.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481