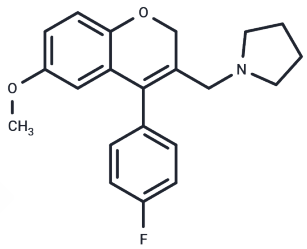
Data Sheet (Cat.No.T61071)

TargetMol

AX-024

Chemical Properties



CAS No. : 1370544-73-2

Formula: C21H22FNO2

Molecular Weight: 339.4

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	AX-024 is a novel chemical compound that acts as an orally available inhibitor of the TCR-Nck interaction. Its primary mechanism of action is the selective inhibition of T cell activation triggered by TCR stimulation. With an IC50 value of approximately 1 nM, AX-024 effectively modulates cell signaling by specifically targeting SH3 domains. Additionally, AX-024 demonstrates desirable characteristics such as low acute toxicity, high potency, and excellent selectivity. Notably, it exhibits strong inhibitory effects on the production of IL-6, TNF-α, IFN-γ, IL-10, and IL-17A.
Targets(IC50)	Others,IFNAR,Interleukin,TNF
In vitro	AX-024 demonstrates exceptional efficacy, being over 10,000 times more effective than the earlier compound AX-000 in inhibiting T-cell proliferation prompted by T-cell receptor (TCR) activation, with an IC50 of 1 nM and observable inhibitory actions at concentrations as low as 1 pM. Furthermore, it significantly suppresses cytokine release from human peripheral blood mononuclear cells, including interleukin-6 (IL-6), tumor necrosis factor-α (TNF-α), interferon-γ (IFN-γ), IL-10, and IL-17A, at 10 nM concentration when stimulated with anti-CD3, outperforming AX-000 in efficiency. In the specific context of CD8+ T cells from OT1 TCR transgenic (OT1 Tg) mice, AX-024 drastically reduces T cell proliferation at just 0.1 nM in cells with a wild-type (WT) PRS mutation. Coimmunoprecipitation assays reveal that, while Nck typically associates with the TCR following activation, this interaction is dose-dependently obstructed by AX-024 starting at 1 nM concentrations, highlighting its potent inhibitory mechanism [1].
In vivo	The AX-024-treated group exhibited fewer scales and a reduction in skin thickening compared to the vehicle group. It significantly lessened the thickening of skin layers, particularly the dermis, closely mirroring the effects seen in mice treated with a control cream without imiquimod (IMQ). Moreover, AX-024 notably decreased the presence of airway inflammatory cells in both assays. Additionally, mice administered AX-024 showed rapid recovery from neurological impairments and weight loss, achieving a symptom-free state by day 30—a stark contrast to mice receiving the vehicle, which continued to exhibit ataxia and a loss of the righting reflex [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9464 mL	14.7319 mL	29.4638 mL
5 mM	0.5893 mL	2.9464 mL	5.8928 mL
10 mM	0.2946 mL	1.4732 mL	2.9464 mL
50 mM	0.0589 mL	0.2946 mL	0.5893 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.