

BD750

Chemical Properties

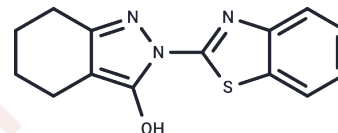
CAS No. : 892686-59-8

Formula: C₁₄H₁₃N₃O₂S

Molecular Weight: 271.34

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	BD750 is an effective immunosuppressant and a JAK3/STAT5 inhibitor, inhibits IL-2-induced JAK3/STAT5-dependent T cell proliferation (IC ₅₀ of 1.5 μM and 1.1 μM in mouse and human T cells, respectively)
Targets(IC ₅₀)	STAT,JAK
In vitro	Following BD750 treatment, LPS-induced maturation of DC, allogeneic T cell proliferation, Th1 and Th17 cell functional differentiation, the STAT5 and AKT activation were determined. The effect of tolDC loaded with antigen peptide on the development and severity of EAE and their splenic Th1 and Th17 cell responses were determined. In comparison with LPS-induced mature DC (mDC), BD750 treatment induced tolDC with lower expression levels of costimulatory molecules and pro-inflammatory cytokines and lower levels of STAT5 phosphorylation. TolDC inhibited allogeneic T cell proliferation and reduced Th1 and Th17 responses[1].
Animal Research	Female C57BL/6 mice (10 wks old, 19-21 g). Dosage with 20 μM, and administration: IV, treated DC on d 7, 11 and 15 post the first PTX injection (dpi 7, 11 and 15)[1].

Solubility Information

Solubility	DMSO: 27.5 mg/mL (101.35 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 2 mg/mL (7.37 mM), Sonication is recommended. 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.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6854 mL	18.4271 mL	36.8541 mL
5 mM	0.7371 mL	3.6854 mL	7.3708 mL
10 mM	0.3685 mL	1.8427 mL	3.6854 mL
50 mM	0.0737 mL	0.3685 mL	0.7371 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

Yan Zhou, et al. Tolerogenic dendritic cells induced by BD750 ameliorate proinflammatory T cell responses and experimental autoimmune encephalitis in mice. *Mol Med.* 2017 Oct;23:204-214.

Zhang Y, Zhao L, Wu A, et al. Abnormal M1 polarization of placental macrophage induced by IL-15/STAT5 activation in VVC may lead to adverse pregnancy outcomes. *Microbes and Infection.* 2023: 105232.

Y Liu, et al. BD750, a benzothiazole derivative, inhibits T cell proliferation by affecting the JAK3/STAT5 signalling pathway. *Br J Pharmacol.* 2013 Feb;168(3):632-43.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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