

CGI-1746

Chemical Properties

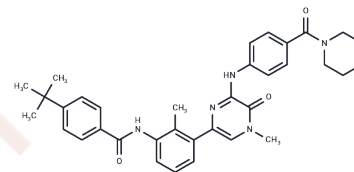
CAS No. : 910232-84-7

Formula: C₃₄H₃₇N₅O₄

Molecular Weight: 579.69

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	CGI1746 is a potent and highly selective small-molecule Btk inhibitor with IC ₅₀ of 1.9 nM.
Targets(IC ₅₀)	BTK, Autophagy
In vitro	Treatment with CGI1746 at a dose of 100 mg/kg, administered subcutaneously twice daily, resulted in a significant suppression (97%) of overall clinical arthritis symptoms. In a positive anti-collagen type II antibody-induced arthritis model, CGI1746 significantly reduced levels of TNF α , IL-1 β , and IL-6, as well as MCP-1 and MIP-1 α mRNA and protein. In mice and rats with arthritis, CGI1746 demonstrated superior efficacy compared to TNF α blockade, significantly lowering clinical scores while also reducing joint inflammation.
In vivo	CGI1746 effectively inhibits the proliferation of CD27+IgG+ B cells isolated from the tonsils of four donors, with an average IC ₅₀ of 112 nM. It completely suppresses B cell proliferation induced by anti-IgM in both mice and humans, with IC ₅₀ s of 134 nM and 42 nM, respectively, yet does not affect T cell proliferation induced by anti-CD3 and anti-CD28. In macrophages, CGI1746 eliminates the production of TNF α , IL-1 β , and IL-6 triggered by Fc γ RIII. It also efficiently inhibits the production of TNF α and IL-1 β in human monocytes stimulated by immobilized or soluble immune complexes, and to a lesser extent, reduces IL-6 production. CGI1746 shows high specificity and selectivity for Btk, being ~1,000 times more selective than for Tec and Src family kinases.
Cell Research	CGI-1746 is dissolved in DMSO. 5 \times 10 ³ DU145 cells or 10 ⁴ LNCaP cells per well, grown on 96 well plates for 24h, are treated with 1 to 30 μ M BTK inhibitors. Cells are fixed after 72h with 2.5% formaldehyde, and stained with Hoechst 33342. Control cells are treated with DMSO. Cell images are acquired using an IN Cell Analyzer 2200 high content imaging system, with a 20X objective. At least 9 fields are imaged per single well of each experiment. Cell numbers are determined and statistics performed using IN Cell Investigator 3.4 high content image analysis software. Each experiment is replicated 3 times, and data are presented as mean \pm SD. Results are considered significant if p < 0.05.

Solubility Information

A DRUG SCREENING EXPERT

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 95 mg/mL (163.88 mM),Sonication is recommended. Ethanol: 33 mg/mL (56.93 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: 3.3 mg/mL (5.69 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	1.7251 mL	8.6253 mL	17.2506 mL
5 mM	0.345 mL	1.7251 mL	3.4501 mL
10 mM	0.1725 mL	0.8625 mL	1.7251 mL
50 mM	0.0345 mL	0.1725 mL	0.345 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

Di Paolo JA, et al. Nat Chem Biol, 2011, 7(1):41-50.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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

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