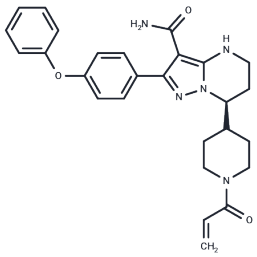
Data Sheet (Cat.No.T7584)

TargetMol

zanubrutinib

Chemical Properties



CAS No. : 1691249-45-2

Formula: C27H29N5O3

Molecular Weight: 471.55

Storage: Store at low temperature
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	Zanubrutinib (BGB-3111) is an inhibitor of Bruton tyrosine kinase (BTK).
Targets(IC50)	BTK
In vitro	In both biochemical and cellular assays, zanubrutinib demonstrated nanomolar BTK inhibition activity. In several MCL and DLBCL cell lines, zanubrutinib inhibited BCR aggregation-triggered BTK autophosphorylation, blocked downstream PLC-γ2 signaling, and potently inhibited cell proliferation. In comparison with ibrutinib, zanubrutinib showed much more restricted off-target activities against a panel of kinases, including ITK. While ibrutinib significantly inhibited rituximab-induced NK cell IFN-γ secretion and in vitro cytotoxicity on mantle cell lymphoma cells, zanubrutinib was at least 10-fold weaker than ibrutinib in inhibiting rituximab induced ADCC, consistent with its weak ITK inhibition activity[1].
In vivo	In mouse BTK occupancy assays, treatment with zanubrutinib resulted in a dose-dependent BTK occupancy and showed about 3-fold more potency than ibrutinib in target organs, including PBMC and spleen.zanubrutinib induced dose-dependent anti-tumor effects against REC-1 MCL xenografts engrafted either subcutaneously or systemically via tail vein injection in mice.In the subcutaneous xenografts, zanubrutinib at 2.5 mg/kg BID showed similar activity as ibrutinib at 50 mg/kg QD, its clinical relevant dose.In the systemic model, the median survival of zanubrutinib 25 mg/kg BID group was significantly longer than those of both ibrutinib 50 mg/kg QD and BID groups.In an ABC-subtype DLBCL (TMD-8) subcutaneous xenograft model, zanubrutinib also demonstrated better anti-tumor activity than ibrutinib.Preliminary 14-day toxicity study in rats showed that zanubrutinib was very well tolerated and maximal tolerate dose (MTD) was not reached when it was dosed up to 250mg/kg/day[1].

Solubility Information

Solubility	DMSO: 257.5 mg/mL (546.07 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: 5 mg/mL (10.6 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	2.1207 mL	10.6033 mL	21.2067 mL
5 mM	0.4241 mL	2.1207 mL	4.2413 mL
10 mM	0.2121 mL	1.0603 mL	2.1207 mL
50 mM	0.0424 mL	0.2121 mL	0.4241 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

Li N , Sun Z , Liu Y , et al. Abstract 2597: BGB-3111 is a novel and highly selective Bruton's tyrosine kinase (BTK) inhibitor[J]. Cancer Research, 2015, 75(15 Supplement):2597-2597.

Chiara Tarantelli, Lu Zhang, Elisabetta Curti ,et al.The Bruton Tyrosine Kinase Inhibitor Zanubrutinib (BGB-3111) Demonstrated Synergies With Other Anti-Lymphoma Targeted Agents[J].Haematologica, 104 (7), e307-e309 Jul 2019