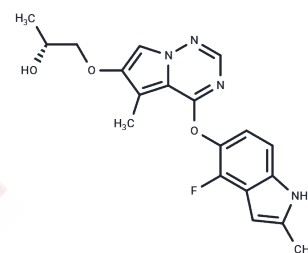


Brivanib

Chemical Properties

CAS No. :	649735-46-6
Formula:	C ₁₉ H ₁₉ N ₄ O ₃
Molecular Weight:	370.38
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Brivanib (BMS-540215) is an ATP-competitive inhibitor targeting VEGFR2 with an IC ₅₀ of 25 nM, exhibiting moderate potency against VEGFR-1 and FGFR-1, and over 240-fold selectivity against PDGFR-β. Phase 3.
Targets(IC ₅₀)	EGFR,FGFR,Autophagy,VEGFR
In vitro	Brivanib also inhibits VEGFR1 and FGFR-1 with IC ₅₀ of 0.38 μM and 0.148 μM. Brivanib is not sensitive to PDGFRβ, EGFR, LCK, PKCα or JAK-3 with IC ₅₀ all above 1900 nM. Brivanib could inhibit the proliferation of VEGF-stimulated HUVECs with IC ₅₀ of 40 nM, compared to 276 nM in FGF-stimulated HUVECs. On the other hand, Brivanib exhibits low activity to tumor cell lines. [1]
In vivo	Brivanib exhibits antitumor activity in H3396 xenografts in athymic mice, completely inhibiting tumor growth at 60 and 90 mg/kg (p.o.) with TGIs of 85% and 97%, respectively [1]. It also significantly suppresses tumor growth in Hepatocellular carcinoma (HCC) xenografts by decreasing VEGFR2 phosphorylation, resulting in tumor weights of 55% and 13% compared to controls at doses of 50 mg/kg and 100 mg/kg. Brivanib shows potential for efficient treatment of HCC [2].
Kinase Assay	In Vitro Kinase Assays: Recombinant proteins containing tyrosine kinases are expressed as GST fusion proteins using baculovirus expression vector system in Sf9 cells. All enzymes are stored at -80 °C. Brivanib is dissolved in DMSO and diluted by water/10% DMSO. The VEGFR2 kinase solution is composed by 8 ng GST-VEGFR2 enzyme, 75 μg/mL substrate, 1 μM ATP, and 0.04 μCi [γ-33P]-ATP in 50 μL buffer: 20 mM Tris (pH 7.0), 25 μg/mL BSA, 1.5 mM MnCl ₂ , 0.5 mM dithiothreitol). Flk-1 kinase solution is composed by 10 ng GST-Flk-1 enzyme, 75 μg/mL substrate, 1 μM ATP, and 0.04 μCi [γ-33P]-ATP in 50 μL buffer: 20 mM Tris, pH 7.0, 25 μg/mL BSA, 4 mM MnCl ₂ , 0.5 mM dithiothreitol). The reactions are incubated for 1 hour at 27 °C and terminated with cold trichloroacetic acid (TCA) to a final concentration of 15%. These TCA precipitates are collected onto unifilter plates and quantitated by liquid scintillation counter.
Cell Research	The cells are stimulated by VEGF or FGF at a concentration of 8 or 80 ng/mL. These cells are seeded in 96 well plates at a density of 2 × 10 ³ and incubated for 24 hours. Brivanib at various dilutions are added to the cells for another 48 hours. Then 0.5 μCi of [3H] thymidine is added for 24 hours. After that the incorporated tritium is quantified using a β-counter. (Only for Reference)

Solubility Information

Solubility	Ethanol: 3 mg/mL (8.1 mM),Sonication is recommended. DMSO: 69 mg/mL (186.3 mM),Sonication is recommended. H2O: <1 mg/mL, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6999 mL	13.4996 mL	26.9993 mL
5 mM	0.540 mL	2.6999 mL	5.3999 mL
10 mM	0.270 mL	1.350 mL	2.6999 mL
50 mM	0.054 mL	0.270 mL	0.540 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.

Reference

Bhide RS, et al., J Med Chem, 2006, 49 (7), 2143-2146.

Huynh H, et al. Clin Cancer Res, 2008, 14(19), 6146-6153.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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