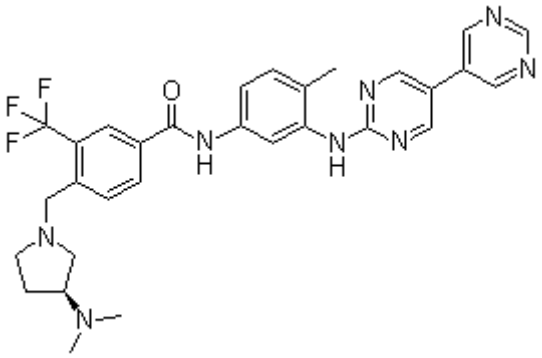
Product Introduction

Bafetinib (INNO-406)

Bafetinib (INNO-406) is a potent and selective dual **Bcr-Abl/Lyn** inhibitor with **IC50** of 5.8 nM/19 nM, does not inhibit the phosphorylation of the T315I mutant and is less potent to PDGFR and c-Kit. Phase 2.

Technical Data:

Molecular Weight (MW):	576.62	
Formula:	$C_{30}H_{31}F_3N_8O$	
Solubility (25 ℃) * <1 mg/ml means slightly soluble or insoluble:	DMSO 115 mg/mL	
	Water <1mg/mL	
	Ethanol <1 g/mL	
Purity:	>98%	
Storage:	3 years -20℃ Powder	
	6 months-80℃ in DMSO	
CAS No.:	859212-16-1	

Biological Activity

Bafetinib blocks WT Bcr-Abl autophosphorylation and its downstream kinase activity with IC50 of 11 nM and 22 nM in K562 and 293T cells, respectively. Bafetinib suppresses the growth of the Bcr-Abl-positive cell lines including K562, KU812, and BaF3/wt cells potently without effects on the proliferation of the Bcr-Abl-negative U937 cell line. Moreover, Bafetinib exhibits a dose-dependent antiproliferative effect against Bcr-Abl point mutant cell lines, such as BaF3/E255K cells. [1] In Bcr-Abl+ leukemia cell lines, Bafetinib induces both caspase-mediated and caspase-independent cell death by blocking the

phosphorylation of Bcr-Abl. [2]

In Bcr-Abl–positive KU812 mouse model, Bafetinib (0.2 mg/kg/day) significantly inhibits tumor growth, and completely inhibits tumor growth without adverse effects at 20 mg/kg/day. For Balb/c mice, Bafetinib shows maximal tolerated dose of 200 mg/kg/d and bioavailability value (BA) of 32%. [1] In a Central nervous system (CNS) leukemia model bearing Ba/F3/wt bcr-ablGFP, Ba/F3/Q252H, or Ba/F3/M351T cells, combination treatment of Bafetinib (60 mg/kg) and cyclosporine A (CsA) (50 mg/kg) leads to more significant inhibition of leukemia growth in the brain than either Bafetinib or CsA alone. [3]

Dual Bcr-Abl/Lyn inhibitor.

References

[1] Kimura S, et al. Blood. 2005, 106(12), 3948-3954.

[2] Kamitsuji Y, et al. Cell Death Differ. 2008, 15(11), 1712-2172.

[3] Yokota A, et al. Blood. 2007, 109(1), 306-314.