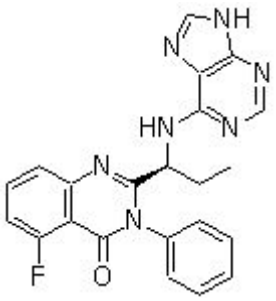
Product Introduction

CAL-101 (Idelalisib, GS-1101)

CAL-101 (Idelalisib, GS-1101) is a selective **p110δ** inhibitor with **IC50** of 2.5 nM; shown to have 40- to 300-fold greater selectivity for p110δ thanp110α/β/γ, and 400- to 4000-fold more selectivity to p110δ than C2β, hVPS34, DNA-PK and mTOR. Phase 3.

Technical Data:

Molecular Weight (MW):	451.42	
Formula:	$C_{22}H_{18}FN_7O$	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 83 mg/mL	
	Water <1 mg/mL	
	Ethanol 35 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	870281-82-6	

Biological Activity

CAL-101 is not sensitive to other PI3K class I subunits including p110α, p110β, and p110γ. CAL-101 specifically blocks FcεR1 p110δ-mediated CD63 expression with an EC50 of 8 nM in primary basophil. CAL-101 exhibits greater activity in B-cell acute lymphoblastic leukemia (B-ALL) and chronic lymphocytic leukemia (CLL) cells compared with acute myeloid leukemia (AML) and myeloproliferative neoplasm (MPN)

cells. CAL-101 produces the reduction in pAktS473, pAktT308, and the downstream target S6 in SU-DHL-5, KARPAS-422 and CCRF-SB cells with EC50 of 0.1 to 1.0 μM. [1] CAL-101 induces selective cytotoxicity in CLL cells independent of IgVH mutational status or interphase cytogenetics, primarily through a caspase-dependent mechanism. CAL-101 induces cytotoxicity preferentially to CLL cells compared with normal B cells, without producing cytotoxicity in other hematopoietic cells, compared to LY294002. CAL-101 lacks direct cytotoxic potential to T cells and nature killer (NK) cells. CAL-101 can inhibit production of inflammatory cytokines, such as IL-6, IL-10, TNF-α, and IFN-γ, and activation-induced cytokines, such as CD40L. CAL-101 also antagonizes CD40L-mediated CLL cell survival. [2] CAL-101 induces an accumulation of cells in G1 and a decrease in the S-phase population in L1236 and L591 cells, which indicates CAL-101 as a novel strategy for the treatment of hodgkin lymphoma (HL). [3]

References

[1] Lannutti BJ, et al. Blood, 2011, 117(2), 591-594.

[2] Herman SE, et al. Blood, 2010, 116(12), 2078-2088.

[3] Meadows SA, et al. Blood, 2011 Dec 30.