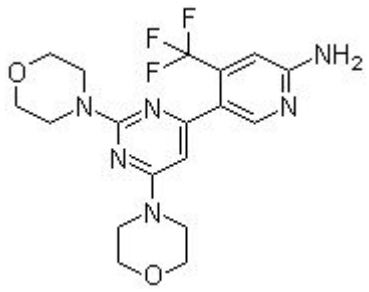
Product Introduction

BKM120 (NVP-BKM120, Buparlisib)

BKM120 is a selective PI3K inhibitor of **p110α/β/δ/γ** with **IC50** of 52 nM/166 nM/116 nM/262 nM, respectively. Reduced potency against VPS34, mTOR, DNAPK, with little activity to PI4Kβ. Phase 1/2.

Technical Data:

Molecular Weight (MW):	410.39	
Formula:	$C_{18}H_{21}F_3N_6O_2$	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 82 mg/mL	
	Water <1 mg/mL	
	Ethanol 2 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	944396-07-0	

Biological Activity

BKM120 is not sensitive to Class III and Class IV PI3K's or PI4K. NVP-BKM120 shows great antiproliferation activity to PI3K deregulated cell lines including A2780, U87MG, MCF7 and DU145 with GI50 of 0.1-0.7 nM. [1] BKM120 induces multiple myeloma cells (ARP1, ARK, MM.1S, MM1.R and U266) apoptosis, which results in increased G1-phase cells and decreased S-phase cells. BKM120 induced CD138+ primary MM cell apoptosis and has significant lower cytotoxicity toward CD138− stromal cells.

BKM120 exposure could cause upregulation of BimS and downregulation of XIAP. [2] BKM120 demonstrates antiproliferative activity in human gastric cancer cell lines by decreasing mTOR downstream signaling. BKM120 could increase either p-ERK or p-STAT3 in KRAS mutant gastric cancer cells. Combination with STAT3 blockade, BKM120 shows a synergism in cells harboring mutated KRAS by inducing apoptosis, but not in KRAS wild-type cells. [3] A recent study shows that BKM120 shows differential forms of cell death on the basis of p53 status of the cells with p53 wild-type cells undergoing apoptotic cell death and p53 mutant/deleted cells having a mitotic catastrophe cell death. BKM120 mediates mitotic catastrophe mainly through Aurora B kinase. [4]

BKM120 completely inhibits pAktser473 in A2780 xenograft tumors at doses of 30, 60, or 100 mg/kg, respectively. BKM120 also shows antitumor activity against U87MG glioma model at doses of 30 and 60 mg/kg. [1] BKM120 treatment results in significantly reduced tumor volume and level of circulating human kappa chain at 5 μM/kg/day−1in ARP1 SCID mouse model, with prolonged survival. [2]

References

[1] Burger MT, et al. ACS Med Chem Lett, 2011, 2 (10), 774–779.

[2] Zheng Y, et al. J Mol Med (Berl), 2011 Dec 30.

[3] Park E, et al. Int J Oncol, 2012, 40(4), 1259-1266.

[4] Koul D, et al. Clin Cancer Res, 2012, 18(1), 184-195.

Note： Products protected by valid patents are not offered for sale in countries where the sale of such products constitutes a patent infringement and its liability is at buyer’s risk. This item is only for R&D purpose not for commercial business in kilos. Buyers should overview the patent issue in their countries.