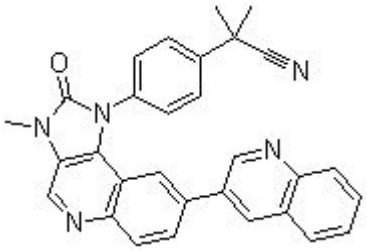
Product Introduction

BEZ235 (NVP-BEZ235, Dactolisib)

BEZ235 (NVP-BEZ235) is a dual ATP-competitive PI3K and mTOR inhibitor for **p110α/γ/δ/β** and **mTOR(p70S6K)** with **IC50** of 4 nM/5 nM/7 nM/75 nM/6 nM, respectively. Inhibits **ATR** with **IC50** of 21 nM; shown to be poor inhibitory to Akt and PDK1. Phase 1/2.

Technical Data:

Molecular Weight (MW):	469.55	
Formula:	$C_{30}H_{23}N_5O$	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 1 mg/mL	
	Water <1 mg/mL	
	Ethanol <1 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	915019-65-7	

Biological Activity

BEZ235 significantly reduces the phosphorylation levels of the mTOR activated kinase p70S6K. BEZ235 results in a reduction of S235/S236P-RPS6 levels with IC50 of 6.5 nM. The activity of BEZ23 against mTOR is determined using a biochemical mTOR K-LISA assay with IC50 of 20.7 nM. BEZ235 shows slightly lower activity against its β paralogue with IC50 of 75 nM. The PI3K/Akt/mTOR pathway is often constitutively

activated in human tumor cells. BEZ235 blocks PI3K and mTOR kinase activity by binding to the ATP-binding cleft of these enzymes. Both PTEN-null cell lines PC3M and U87MG show a dose-dependent reduction in cell proliferation when treated with increasing concentrations of BEZ235 with an average GI50 of 10-12 nM. [1] BEZ235 is an mTORC1/2 catalytic inhibitor. [2]

BEZ235 induces regression of the tumors (69%) without statistically significant effect on body weight gain. Altogether, these preliminary in vivo efficacy results show that BEZ235 causes disease stasis when administered orally as a single agent and can enhance the efficacy of other anticancer agents when used in combination studies. [1]

References

[1] Maira SM, et al. Mol Cancer Ther, 2008, 7(7), 1851-1863.
[2] Roper J, et al. PLoS One, 2011, 6(9), e25132.
[3] Roulin D, et al. Mol Cancer, 2011, 10, 90.
[4] Cho DC, et al. Clin Cancer Res, 2010, 16(14), 3628-3638.
[5] Zhang Y, et al. J Cell Physiol, 2012, 227(1), 35-43.
[6] Shoji K, et al. PLoS One, 2012, 7(5), e37431.
[7] Chiarini F, et al. Cancer Res, 2010, 70(20), 8097-8107.
[8] Toledo LI, et al. Nat Struct Mol Biol, 2011, 18(6), 721-727.

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