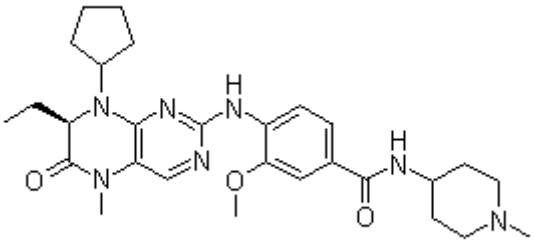
Product Introduction

BI 2536

BI2536 is a potent **Plk1** inhibitor with **IC50** of 0.83 nM. It shows 4- and 11-fold greater selectivity against Plk2 and Plk3. Phase 2.

Technical Data:

Molecular Weight (MW):	521.66	
Formula:	$C_{28}H_{39}N_7O_3$	
Solubility (25℃) * <1 mg/ml means slightly soluble or insoluble:	DMSO 21 mg/mL	
	Water <1 mg/mL	
	Ethanol 100 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	755038-02-9	

Biological Activity

BI 2536 blocks the activities of Plk2 and Plk3 to a slightly lesser extent with IC50 of 3.5 nM and 9.0 nM, respectively. In HeLa cells, BI 2536 treatment ranging from 10-100 nM leads to the blocking of the recruitment of γ-tubulin and phosphorylation of Apc6 at mitotic centrosomes, inhibition of cohesin release from chromosome arms, induction of monopolar spindles, as well as a range of other mitotic processes that are known to depend on Plk1. BI 2536 treatment leads to the HeLa cells arrested in G2/M, subsequently a sub-G1 DNA peak indicative of DNA breakdown and apoptosis, and accumulated cleaved PARP p85 fragments in a concentration-dependent manner. BI 2536 inhibits the growth of a panel of 32 human cancer cell lines with EC50 of 2-25 nM, while blocking the proliferation of exponentially growing hTERT-RPE1, human umbilical vein endothelial cells (HUVECs), and normal rat

kidney (NRK) cells with EC50 of 12-31 nM. [1] Plk1 inhibition by BI 2536 reduces the growth and viability of anaplastic thyroid carcinoma (ATC) cells such as CAL62, OCUT-1, SW1736, 8505C, and ACT-1 with EC50 values of 1.4-5.6 nM. [2]

BI 2536 given i.v. once or twice per week is highly efficacious in diverse xenograft models with acceptable tolerability by inhibiting cell proliferation through a mitotic arrest, and subsequently induction of tumor-cell death. Administration of BI 2536 at 50 mg once or twice per week significantly inhibits growth of HCT 116 xenografts with T/C of 15% and 0.3%, respectively. BI 2536 treatment twice-weekly also leads to excellent tumor-growth in BxPC-3 and A549 models with T/C of 5% and 14%, respectively. [1]

The first potent and selective Plk1 inhibitor that induces all hallmarks of Plk1 inhibition.

References

[1] Steegmaier M, et al. Curr Biol, 2007, 17(4), 316-322.

[2] Nappi TC, et al. Cancer Res, 2009, 69(5), 1916-1923.