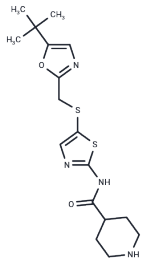
Data Sheet (Cat.No.T6049)

TargetMol

SNS-032

Chemical Properties



CAS No. : 345627-80-7

Formula: C17H24N4O2S2

Molecular Weight: 380.53

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	SNS-032 (BMS-387032) is a selective inhibitor of CDK2 (IC50: 48 nM), exhibiting 10- and 20-fold selectivity over CDK1 and CDK4, respectively. It is also sensitive to CDK7 (IC50: 62 nM) and CDK9 (IC50: 4 nM), with no effect on CDK6.
Targets(IC50)	Apoptosis,CDK,GSK-3
In vitro	SNS-032 demonstrates low sensitivity towards CDK1 and CDK4, with IC50 values of 480 nM and 925 nM, respectively. It effectively eradicates chronic lymphocytic leukemia cells in vitro, showing significant effectiveness regardless of prognostic indicators or previous treatments. In comparison to flavopiridol and roscovitine, SNS-032 exhibits superior potency, both in inhibiting RNA synthesis and inducing apoptosis. Its reversibility is notable, as the withdrawal of SNS-032 leads to the reactivation of RNA polymerase II, resynthesis of Mcl-1, and consequently, cell survival. Moreover, SNS-032 inhibits the formation of three-dimensional capillary networks in endothelial cells, completely halting U87 mg cell-mediated capillary formation in HUVECs and significantly reducing VEGF production in both cell lines, thereby preventing in vitro angiogenesis primarily by blocking VEGF. Preclinical studies reveal SNS-032's ability to induce cell cycle arrest and apoptosis in multiple cell lines by inhibiting CDKs 2, 7, and 9, highlighting its effectiveness regardless of human serum presence. It also triggers a dose-dependent increase in annexin V staining and caspase-3 activation, dephosphorylates serine 2 and 5 of RNA polymerase II, and reduces the expression of CDK2 and CDK9, alongside dephosphorylated CDK7.
In vivo	SNS-032 prevents tumor cell-induced VEGF secretion in a tumor coculture model. [2] SNS-032, a new CDK inhibitor, is more selective and less cytotoxic and has been shown to prolong stable disease in solid tumors. [4]
Cell Research	Cell Titer-Glo (CTG) luminescent assay is performed to measure the growth curves of both HUVECs and U87 mg cells. U87 mg cells and HUVECs (2×103 cells/well) are seeded in a 96-well microplate in a final volume of 100 ml. After 24 hours, cells are treated with various doses of SNS-032 (0–0.5 mM) for 24, 48, or 72 hours. After completion of the treatment, 100 ml of CTG solution is added to each well and incubated for 20 minutes at room temperature in the dark. Lysate (50 ml) is transferred to a 96-well white plate, and luminescence is measured by POLARstar OPTIMA. Percent cell growth is calculated by considering 100% growth at the time of SNS-032 addition.(Only for Reference)

Solubility Information

Solubility	DMSO: 64.38 mg/mL (169.19 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.26 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6279 mL	13.1396 mL	26.2791 mL
5 mM	0.5256 mL	2.6279 mL	5.2558 mL
10 mM	0.2628 mL	1.314 mL	2.6279 mL
50 mM	0.0526 mL	0.2628 mL	0.5256 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Chen R, et al. Blood, 2009, 113(19): 4637-45.
Zhang G M, Huang S S, Ye L X, et al. Reciprocal positive regulation between BRD4 and YAP in GNAQ-mutant uveal melanoma cells confers sensitivity to BET inhibitors. Pharmacological Research. 2022: 106464.
Ali MA, et al. Neoplasia, 2007, 9(5), 370-81.
Guo S, Lei X, Chang Y, et al.SARS-CoV-2 hijacks cellular kinase CDK2 to promote viral RNA synthesis.Signal Transduction and Targeted Therapy.2022, 7(1): 1-12.
Conroy A, et al. Cancer Chemother Pharmacol, 2009, 64(4), 723-32.
Walsby E, et al. Leukemia, 2011, 25(3), 411-9.