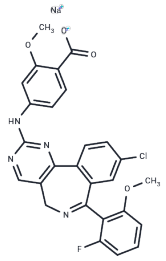
Data Sheet (Cat.No.T38428)

TargetMol

Alisertib Sodium

Chemical Properties



CAS No. : 1028486-06-7

Formula: C27H19ClFN4NaO4

Molecular Weight: 540.91

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	Alisertib Sodium (MLN 8237 Sodium)is a selective Aurora A inhibitor that causes G2/M phase arrest and chromosomal misalignment, leading to tumour cell apoptosis, and can also inhibit STAT3 Tyr705 phosphorylation, resulting in downregulation of c-Myc expression.
Targets(IC50)	Apoptosis,Others,STAT,Aurora Kinase,Autophagy
In vitro	**Methods**: The anti-proliferative activity of Alisertib Sodium (MLN 8237 Sodium) was evaluated in various tumor cell lines. Cells were treated with the compound in vitro, and cell proliferation was measured to determine IC_{50} values. **Results**: Alisertib Sodium exhibited significant anti-proliferative effects across different tumor cell lines, with IC_{50} values ranging from 15 to 469 nM, indicating cell line-dependent sensitivity differences [4].
In vivo	**Methods**: To investigate the inhibitory effect of Alisertib Sodium (MLN 8237 Sodium) on colorectal tumor growth, a HCT-116 colon cancer xenograft model was established in nude mice. Mice were administered Alisertib orally at doses of 3, 10, or 30 mg/kg once daily for 3 consecutive weeks. **Results**: Alisertib Sodium significantly inhibited tumor growth in a dose-dependent manner. The tumor growth inhibition (TGI) rates for the 3, 10, and 30 mg/kg groups were 43.3%, 84.2%, and 94.7%, respectively [4].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8487 mL	9.2437 mL	18.4874 mL
5 mM	0.3697 mL	1.8487 mL	3.6975 mL
10 mM	0.1849 mL	0.9244 mL	1.8487 mL
50 mM	0.037 mL	0.1849 mL	0.3697 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

Güllü G, et al. A novel Aurora-A kinase inhibitor MLN8237 induces cytotoxicity and cell-cycle arrest in multiple myeloma Blood June 24, 2010 vol. 115 no. 25 5202-5213.
Sloane DA, et al. Drug-Resistant Aurora A Mutants for Cellular Target Validation of the Small Molecule Kinase Inhibitors MLN8054 and MLN8237 ACS Chem. Biol., 2010, 5 (6), pp 563-576.
Bavetsias V, et al. Aurora Kinase Inhibitors: Current Status and Outlook. Front Oncol. 2015 Dec 21;5:278.
Manfredi MG, et al. Characterization of Alisertib (MLN8237), an investigational small-molecule inhibitor of aurora A kinase using novel in vivo pharmacodynamic assays.Clin Cancer Res. 2011 Dec 15;17(24):7614-7624.