Data Sheet (Cat.No.T6892)

TargetMol

Niraparib tosylate

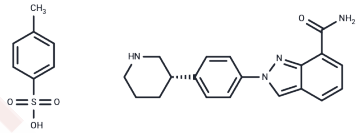
Chemical Properties

CAS No. : 1038915-73-9

Formula: C19H20N4O·C7H8O3S

Molecular Weight: 492.59

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	Niraparib tosylate (MK-4827 (tosylate))(with IC50 of 3.8 nM/2.1 nM) is a selective PARP1/PARP2 inhibitor.
Targets(IC50)	Apoptosis,PARP
In vitro	Micromolar concentrations of niraparib radiosensitizes tumor cell lines derived from lung, breast, and prostate cancers independently of their p53 status but not cell lines derived from normal tissues. Niraparib also sensitizes tumor cells to Water2 and converts Water2-induced single strand breaks (SSBs) into DSBs during DNA replication [5].
In vivo	Niraparib tosylate strongly enhances the effect of radiation on a variety of human tumor xenografts, both p53 wild type and p53 mutant. Niraparib tosylate reduces PAR levels in tumors by 1 h after administration which persisted for up to 24 h[1]. In vivo treatment with Niraparib tosylate and radiation prolonged survival ($p<0.01$) compared to single modalities. In vivo superiority of Niraparib tosylate plus radiation is further documented by significant elevations of cleaved caspase-3 and γ-H2AX in tumors from the combination group compared to single modality cohorts[4].
Kinase Assay	Enzyme assay is conducted in buffer containing 25 mM Tris, pH 8.0, 1 mM DTT, 1 mM spermine, 50 mM KCl, 0.01% Nonidet P-40, and 1 mM MgCl2. PARP reaction contains 0.1 μCi [3H]NAD+ (200 000 DPM), 1.5 μM NAD+, 150 nM biotinylated NAD+, 1 μg/mL activated calf thymus, and 1?5 nM PARP-1. Autoreactions utilizing SPA bead-based detection are carried out in 50 μL volumes in white 96-well plates. Compounds (e.g., MK-4827) are prepared in 11-point serial dilution in 96-well plate, 5 μL/well in 5% DMSO/Water (10× concentrated). Reactions are initiated by adding first 35 μL of PARP-1 enzyme in buffer and incubating for 5 min at room temperature and then 10 μL of NAD+ and DNA substrate mixture. After 3 h at room temperature, these reactions are terminated by the addition of 50 μL of streptavidin-SPA beads (2.5 mg/mL in 200 mM EDTA, pH 8). After 5 min, they are counted using a TopCount microplate scintillation counter. IC50 data is determined from inhibition curves at various substrate concentrations[1].
Cell Research	V-C8 (BRCA2-negative) Chinese hamster cells are treated with the PARP inhibitor MK-4827 for 24 h, washed and incubated in drug-free medium for 5-7 days until colonies formed. (Only for Reference)

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 91 mg/mL (184.74 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0301 mL	10.1504 mL	20.3009 mL
5 mM	0.406 mL	2.0301 mL	4.0602 mL
10 mM	0.203 mL	1.015 mL	2.0301 mL
50 mM	0.0406 mL	0.203 mL	0.406 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

Wang L, et al. Invest New Drugs. 2012, 30(6):2113-20.
Patel AG, et al. J Biol Chem. 2012, 287(6):4198-210.
Jones P, et al. J Med Chem. 2009, 52(22):7170-85.
Mueller S, et al. Anticancer Res. 2013, 33(3):755-62.
Bridges KA, et al. oncotarget. 2014, 5(13):5076-86.