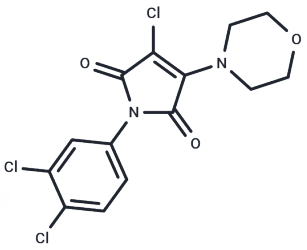
Data Sheet (Cat.No.T2276)

TargetMol

RI-1

Chemical Properties



CAS No. : 415713-60-9

Formula: C14H11Cl3N2O3

Molecular Weight: 361.61

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	RI-1 (RAD51 inhibitor 1) is a RAD51 inhibitor (IC50: 5-30 μM).
Targets(IC50)	DNA/RNA Synthesis
In vivo	PluriSIns 1 showed single-agent toxicity (LD50: 20-40 μM) in three cancer cell lines: HeLa cells, MCF-7 and U2OS. Through direct and specific disruption of HsRAD51 and inhibition of RAD51, RI-1 inhibited the ability of RAD51 to form filaments on ssDNA, resulting in increased cellular susceptibility to DNA damage.RI-1 caused a decrease in γ-H2AX foci in G2-phase cells and an increase in the level of unrepaired DSBs 6 h after radiation.
Kinase Assay	DNA binding assays: All reactions are performed in black non-binding polystyrene 384-well plates with reaction volumes of 30–100 μL. Purified DNA strand exchange proteins and chemical compounds are pre-incubated at room temperature for 5 minutes; they are then further incubated at 37°C for 30 min with 100 nM of ssDNA substrate, consisting of a 45-mer poly-dT tagged with Alexa 488 at the 5' terminus (synthesized and purified by Integrated DNA Technologies). Reactions are performed in 20 mM HEPES pH 7.5, 10 mM MgCl2, 0.25 μM BSA, 2% glycerol, 30 mM NaCl, 4% DMSO and 2 mM ATP. Some conditions included DTT or TCEP (tris(2-carboxyethyl)phosphine) as indicated. DNA binding is measured as a function of fluorescence polarization (FP) with a Safire2 plate reader, using the following settings: excitation 470±5 nM, emission 530±5 nM, 10 reads/well, Z height and G factor auto-calibrated from control wells. Displayed error bars represent standard deviation. For experiments involving a titration of protein concentrations, data are fit to an equation that accounts for the cooperative nature by which recombinase proteins bind DNA. For experiments involving a titration of RI-1, protein concentrations are selected to give an ~80% saturation of the FP signal in the absence of RI-1.
Cell Research	Cytotoxicity is determined by loss of colony-forming ability. Experiments are performed in triplicate. Crystal violet stained colonies are imaged with a CCD camera and counted using NIH Image software. Error bars denote standard error.(Only for Reference)

Solubility Information

Solubility	DMSO: 36.2 mg/mL (100.11 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (5.53 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	2.7654 mL	13.8271 mL	27.6541 mL
5 mM	0.5531 mL	2.7654 mL	5.5308 mL
10 mM	0.2765 mL	1.3827 mL	2.7654 mL
50 mM	0.0553 mL	0.2765 mL	0.5531 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

Budke B, et al. Nucleic Acids Res. 2012, 40(15), 7347-7357.
Bee L, et al. PLoS One. 2013, 8(7), e69061.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481