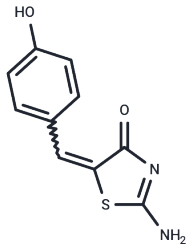
Data Sheet (Cat.No.T60273)

TargetMol

Mirin

Chemical Properties



CAS No. : 299953-00-7

Formula: C10H8N2O2S

Molecular Weight: 220.25

Storage: Keep away from direct sunlight,Keep away from moisture
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	Mirin is a Mre11-Rad50-Nbs1 (MRN) complex inhibitor that inhibits MRN-dependent ATM activation without affecting ATM protein kinase activity. It also inhibits Mre11-associated exonuclease activity, thereby disrupting DNA double-strand break repair.Mirin induces cell cycle arrest in G1 phase.
Targets(IC50)	ATM/ATR
In vitro	Mirin inhibits H2AX phosphorylation with an IC50 value of 66 μM. Mirin inhibits ATM-dependent phosphorylation of downstream targets Nbs1 and Chk2 as well as MRN-dependent ATM autophosphorylation at Ser1981 in response to DSBs. Mirin treatment (50, 100 μM) of TOSA4 cells induced a significant G2 arrest. Mirin (10-100 μM) inhibits homology-dependent DNA repair in TOSA4 cells. [1]

Solubility Information

Solubility	DMSO: 83.3 mg/mL (378.21 mM),Sonication is recommended. DMF: 60 mg/mL (272.42 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: 8.33 mg/mL (37.82 mM),Solution. 10% DMSO+90% Saline: < 8.33 mg/mL (37.82 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *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	4.5403 mL	22.7015 mL	45.403 mL
5 mM	0.9081 mL	4.5403 mL	9.0806 mL
10 mM	0.454 mL	2.2701 mL	4.5403 mL
50 mM	0.0908 mL	0.454 mL	0.9081 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

Dupré A, et al. A forward chemical genetic screen reveals an inhibitor of the Mre11-Rad50-Nbs1 complex. Nat Chem Biol. 2008;4(2):119-125.
Bi X, Zhang M, Zhou J, et al.Phosphorylated Hsp27 promotes adriamycin resistance in breast cancer cells through regulating dual phosphorylation of c-Myc.Cellular Signalling.2023: 110913.
Ying S, et al. Mre11-dependent degradation of stalled DNA replication forks is prevented by BRCA2 and PARP1. Cancer Res. 2012;72(11):2814-2821.