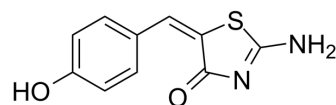


Mirin

Cat. No.:	HY-117693
CAS No.:	299953-00-7
Molecular Formula:	C ₁₀ H ₈ N ₂ O ₂ S
Molecular Weight:	220
Target:	ATM/ATR
Pathway:	Cell Cycle/DNA Damage; PI3K/Akt/mTOR
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (378.77 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	4.5455 mL	22.7273 mL	45.4545 mL
	5 mM	0.9091 mL	4.5455 mL	9.0909 mL
	10 mM	0.4545 mL	2.2727 mL	4.5455 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Mirin is a potent Mre11-Rad50-Nbs1 (MRN) complex inhibitor. Mirin prevents MRN-dependent activation of ATM (IC₅₀=12 μM) without affecting ATM protein kinase activity, and it inhibits Mre11-associated exonuclease activity. Mirin abolishes the G2/M checkpoint and homology-dependent repair in mammalian cells. Mirin prevents ATM activation in response to DNA double-strand breaks (DSBs) and blocks homology-directed repair (HDR) in mammalian cells^[1].

In Vitro

Mirin inhibits H2AX phosphorylation with an IC₅₀ of 66 μM. Mirin also inhibits the ATM-dependent phosphorylation of the downstream targets Nbs1 and Chk2 and the MRN-dependent autophosphorylation of ATM at Ser1981 in response to DSBs. Mirin induces a substantial G2 arrest at concentrations of 50 μM and 100 μM. Mirin (10-100 μM) inhibits homology-dependent DNA repair in TOSA4 cells^[1].
BRCA2-deficient cells also showed hypersensitivity to the Mre11 inhibitor Mirin^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA