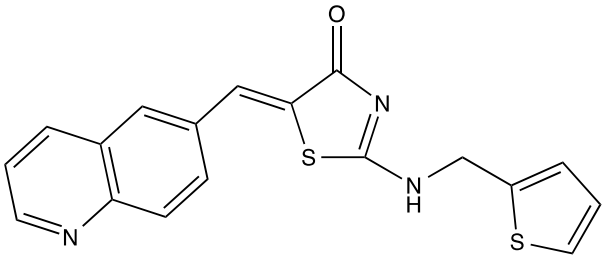
Catalog # 10-4126

RO-3306

CAS# 872573-93-8

5-(6-Quinolinylmethylene)-2-[(2-thienylmethyl)amino]-4(5H)-thiazolone

Lot # JKM1166



RO-3306 is a selective inhibitor of CDK1 (IC_{50} = 35 nM versus CDK2 IC_{50} = 340nM).[1,2] It induces G2/M phase cell cycle arrest and apoptosis. Inhibition of CDK1 with RO-3306 has been shown to have synergistic effects with PARP inhibitors in treating various breast cancers.[3,4] It has also been demonstrated to overcome apoptotic resistance in $BRAF^{V600E}$ human colorectal cancer cells.[5]

1) Vassilev *et al.* (2006), *Selective small-molecule inhibitor reveals critical mitotic functions of human CDK1*; Proc.Nat.Acad.Sci.USA **103** 10660
2) Krasinska *et al.* (2008), *Selective chemical inhibition as a tool to study Cdk1 and Cdk2 functions in the cell cycle*; Cell Cycle **7** 1702
3) Pierce *et al.* (2013), *Comparative antiproliferative effects of iniparib and olaparib on a panel of triple-negative and non-triple-negative breast cancer cell lines*; Cancer Biol.Ther. **14** 537
4) Xia *et al.* (2014), *The CDK1 inhibitor RO3306 improves the response of BRCA-proficient breast cancer cells to PARP inhibition*; Int.J.Oncol. **44** 735
5) Zhang *et al.* (2018), *Targeting CDK1 and MEK/ERK Overcomes Apoptotic Resistance in BRAF-Mutant Human Colorectal Cancer*; Mol.Cancer Res. **16** 378

PHYSICAL DATA

Molecular Weight:	351.45
Molecular Formula:	$C_{18}H_{13}N_3OS_2$
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (15 mg/ml)
Physical Description:	Off-white/very pale yellow solid
Storage and Stability:	Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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