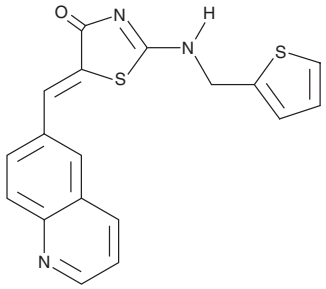
PRODUCT INFORMATION

Ro 3306

Item No. 15149

CAS Registry No.:	872573-93-8
Formal Name:	5Z-(6-quinolinylmethylene)-2-[(2-thienylmethyl)amino]-4(5H)-thiazolone
MF:	$C_{18}H_{13}N_3OS_2$
FW:	351.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 206, 238, 284, 346 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ro 3306 is supplied as a crystalline solid. A stock solution may be made by dissolving the Ro 3306 in the solvent of choice, which should be purged with an inert gas. Ro 3306 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of Ro 3306 in these solvents is approximately 20 mg/ml.

Ro 3306 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Ro 3306 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Ro 3306 has a solubility of approximately 0.25 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Cyclin-dependent kinase 1 (Cdk1) complexes with different cyclins, with the cyclin determining substrate specificity. Ro 3306 is a cell-permeable, reversible inhibitor of Cdk1, showing preference for Cdk1/cyclin B1 (K_i = 35 nM) over Cdk1/cyclin A (K_i = 110 nM), two CDK complexes which regulate cell cycling.[1] It also inhibits Cdk2 (K_i = 340 nM), PKCδ (K_i = 318 nM), and serum- and glucocorticoid-induce kinase (K_i = 497 nM) but not Cdk4.[1] Through its effects on Cdk1, Ro 3306 reversibly arrests proliferating cells at the G_2/M phase border, allowing cell synchronization without the use of microtubule poisons.[2] Prolonged treatment of cells with Ro 3306 induces apoptosis and this can be augmented in acute myeloid leukemia cells by stimulating p53 activity with nutlin-3.[3]

References

1. Vassilev, L.T., Tovar, C., Chen, S., *et al*. Selective small-molecule inhibitor reveals critical mitotic functions of human CDK1. *Proc. Natl. Acad. Sci. USA* **103(28)**, 10660-10665 (2006).
2. Vassilev, L.T. Cell cycle synchronization at the G_2/M phase border by reversible inhibition of CDK1. *Cell Cycle* **5(22)**, 2555-2556 (2006).
3. Kojima, K., Shimanuki, M., Shikami, M., *et al*. Cyclin-dependent kinase 1 inhibitor RO-3306 enhances p53-mediated Bax activation and mitochondrial apoptosis in AML. *Cancer Sci.* **100(6)**, 1128-1136 (2009).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM