Product Data Sheet

Product Name: RH1 (NSC 697726)
Cat. No.: GC33393

Chemical Properties

Cas. No.	221635-42-3		
SMILES	O=C1C(N2CC2)=C(CO)C(C(N3CC3)=C1C)=O		
Formula	$C_{12}H_{14}N_2O_3$	M.Wt	234.25
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	RH1 (NSC 697726)		

Protocol

Cell experiment:

MDA468 and NQ16 cells are treated with RH1 at 50, 100, and 500 nM or 10, 50, and 100 nM, respectively, in unsupplemented media for 30, 60, or 120 min, after which the dosing medium is aspirated, rinsed with PBS, and then harvested[1].

Animal experiment:

Mice[2]Female athymic nude mice bearing bilateral tumors are randomized into a control and three drug-treatment groups of seven to eight animals per cell line. RH1 (0.1 mg/kg, 0.2 mg/kg, or 0.4 mg/kg) is injected into mice daily for five consecutive days (every day for 5 days) [2].

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References:

[1]. Park MT, et al. The anti-tumour compound, RH1, causes mitochondria-mediated apoptosis by activating c-Jun N-terminal kinase. Br J Pharmacol. 2011 Jun;163(3):567-85.
[2]. Dehn DL, et al. Development of a new isogenic cell-xenograft system for evaluation of NAD(P)H:quinone oxidoreductase-directed antitumor quinones: evaluation of the activity of RH1. Clin Cancer Res. 2004 May 1;10(9):3147-55.

Background

RH1 (NSC 697726) is a potent bioreductive agent with profound anti-cancer activity in vitro and in vivo.

Treatment of NQ16 cells with RH1 (50 and 100 nM) for 60 and 120 min results in a significant increase ($p < 0.05$) in cross-linked DNA. RH1 induces apoptosis in a time- and concentration-dependent manner in NQ16 cells [1].

RH1 exhibits antitumor activity in a dose-dependent manner against NQ16 tumors growing in athymic mice. RH1 treatment (0.4 mg/kg and 0.2 mg/kg) of mice bearing NQ16 tumors results in a significant reduction in tumor volume between treated groups and controls as early as 5 days after the treatment period ended. Low-dose RH1 (0.1 mg/kg) also results in a significant reduction in tumor volume between treated mice and controls[2].

[1]. Park MT, et al. The anti-tumour compound, RH1, causes mitochondria-mediated apoptosis by activating c-Jun N-terminal kinase. Br J Pharmacol. 2011 Jun;163(3):567-85.
[2]. Dehn DL, et al. Development of a new isogenic cell-xenograft system for evaluation of NAD(P)H:quinone oxidoreductase-directed antitumor quinones: evaluation of the activity of RH1. Clin Cancer Res. 2004 May 1;10(9):3147-55.

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