Product Data Sheet

Product Name: ZM336372
Cat. No.: GC13286

Chemical Properties

Cas. No.	208260-29-1		
Chemical Name	3-(dimethylamino)-N-[3-[(4-hydroxybenzoyl)amino]-4-methylphenyl]benzamide		
SMILES	CC1=C(C=C(C=C1)NC(=O)C2=CC(=CC=C2)N(C)C)NC(=O)C3=CC=C(C=C3)O		
Formula	$C_{23}H_{23}N_3O_3$	M.Wt	389.4
Solubility	≥ 19.45mg/mL 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	ZM336372		

Protocol

Cell experiment:

Proliferation of H727 and BON cells after treatment with ZM336372 is measured using a 3,4-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide. Cells are trypsinized and plated in triplicate to 24-well plates and allowed to adhere overnight. Then, cells are treated with either 100 μM ZM336372 or DMSO (2%) and incubated. Media are changed every 2 days with new treatment. At each time point, cell growth rates are analyzed after the addition of 3,4-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide reagent to the cultured cells. Absorbance is determined using spectrophotometer at a wavelength of 540 nm[2].

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References:

[1]. Hall-Jackson CA, et al. Paradoxical activation of Raf by a novel Raf inhibitor. Chem Biol. 1999 Aug;6(8):559-68.
[2]. Van Gompel JJ, et al. ZM336372, a Raf-1 activator, suppresses growth and neuroendocrine hormone levels in carcinoid tumor cells. Mol Cancer Ther. 2005 Jun;4(6):910-7.

Background

ZM336372 is a potent inhibitor of C-Raf with IC50 value of 70 nM [1]. It is also reported that ZM336372 inhibits SAPK2b/p38β2 with IC50 value of 2 μM.

C-Raf is a member of the Raf kinase family of serine/threonine-specific protein kinases and plays an important role in the ERK1/2 pathway. It has been reported that abnormal expression of C-Raf correlates with human diseases and also involves in a variety of cancers.

ZM336372 is a potent C-Raf inhibitor and has a different selectivity with the reported C-Raf inhibitor PD98059. When tested with primary neurons, ZM3363372 treatment decreased low potassium-induced apoptosis percent by inhibiting C-Raf activation [2]. In

tumor spheroids pretreated with H2O2 and ZM336372 for 24 hours totally abolished the ROS-induced eNOS up-regulation via mediating ERK1/2 signaling pathway [3].

References:

1. Hall-Jackson, C.A., et al., Paradoxical activation of Raf by a novel Raf inhibitor. Chem Biol, 1999. 6(8): p. 559-68.
2. Burgess, S. and V. Echeverria, Raf inhibitors as therapeutic agents against neurodegenerative diseases. CNS Neurol Disord Drug Targets, 2010. 9(1): p. 120-7.
3. Wartenberg, M., et al., Reactive oxygen species-mediated regulation of eNOS and iNOS expression in multicellular prostate tumor spheroids. Int J Cancer, 2003. 104(3): p. 274-82.