Product Data Sheet

Product Name: ZM39923
Cat. No.: GC37971

Chemical Properties

Cas. No.	273727-89-2		
SMILES	O=C(C1=CC=C2C=CC=CC2=C1)CCN(C(C)C)CC3=CC=CC=C3		
Formula	$C_{23}H_{25}NO$	M.Wt	331.45
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	ZM39923		

Protocol

Cell experiment:	PCI-37B (a metastatic SCCHN cell line expressing CCR7) cells are cultured in Dulbecco's modified Eagle's medium (DMEM) containing 10% fetal bovine serum, penicillin, and streptomycin in an atmosphere of 5% CO2 and 95% air at 37°C. The ZM39923 inhibitor treatment at the dose determined using the Cell Counting Kit-8[3].

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References:

[1]. Brown GR, et al. Naphthyl ketones: a new class of Janus kinase 3 inhibitors. Bioorg Med Chem Lett. 2000 Mar 20;10(6):575-9.
[2]. Lai TS, et al. Identification of chemical inhibitors to human tissue transglutaminase by screening existing drug libraries. Chem Biol. 2008 Sep 22;15(9):969-78.
[3]. Zhang Z, et al. Jak3 is involved in CCR7-dependent migration and invasion in metastatic squamous cell carcinoma of the head and neck. Oncol Lett. 2017 May;13(5):3191-3197.

Background

ZM 39923 is an inhibitor of JAK3 (IC_{50} = 79 nM) that less potently inhibits epidermal growth factor receptor, JAK1, and cyclin-dependent kinase 4 (IC_{50}s = 2.4, 40, and 10 ?M, respectively).[1] In the absence of the reducing agent dithiothreitol, ZM 39923 also inhibits human tissue transglutaminase 2 (TGM2) and the transglutaminase Factor XIIIa (IC_{50}s= 10 and 25 nM, respectively).[2] It breaks down in neutral buffer to form ZM 449829, which is also an inhibitor of JAK3, TGM2, and Factor XIIIa.[1,2]

1.Brown, G.R., Bamford, A.M., Bowyer, J., et al.Naphthyl ketones: A new class of Janus kinase 3 inhibitorsBioorg. Med. Chem. Lett.10(6)575-579(2000) 2.Lai, T.-S., Liu, Y., Tucker, T., et al.Identification of chemical inhibitors to human tissue transglutaminase by

screening existing drug librariesChem. Biol.15(9)969-978(2008)

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