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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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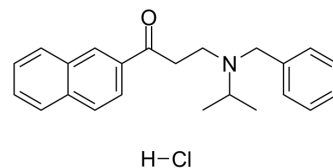
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ZM39923 hydrochloride

Cat. No.:	HY-12589
CAS No.:	1021868-92-7
Molecular Formula:	C ₂₃ H ₂₆ ClNO
Molecular Weight:	367.91
Target:	JAK
Pathway:	Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Stem Cell/Wnt
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : ≥ 47 mg/mL (127.75 mM)																	
	H ₂ O : 1 mg/mL (2.72 mM; Need ultrasonic)																	
	* "≥" means soluble, but saturation unknown.																	
	<table><tr><td rowspan="4">Preparing Stock Solutions</td><td> Solvent Concentration Mass </td><td>1 mg</td><td>5 mg</td><td>10 mg</td></tr><tr><td>1 mM</td><td>2.7181 mL</td><td>13.5903 mL</td><td>27.1806 mL</td></tr><tr><td>5 mM</td><td>0.5436 mL</td><td>2.7181 mL</td><td>5.4361 mL</td></tr><tr><td>10 mM</td><td>0.2718 mL</td><td>1.3590 mL</td><td>2.7181 mL</td></tr></table>	Preparing Stock Solutions	Solvent Concentration Mass	1 mg	5 mg	10 mg	1 mM	2.7181 mL	13.5903 mL	27.1806 mL	5 mM	0.5436 mL	2.7181 mL	5.4361 mL	10 mM	0.2718 mL	1.3590 mL	2.7181 mL
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	10 mM	0.2718 mL	1.3590 mL	2.7181 mL														
	Please refer to the solubility information to select the appropriate solvent.																	
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (6.80 mM); Clear solution																	
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.80 mM); Clear solution																	
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (6.80 mM); Clear solution																	

BIOLOGICAL ACTIVITY

Description	ZM39923 hydrochloride is a JAK3 inhibitor, with a pIC ₅₀ of 7.1; ZM39923 hydrochloride also potently inhibits tissue transglutaminase (TGM2) with an IC ₅₀ of 10 nM.			
IC ₅₀ & Target	JAK3 7.1 (pIC ₅₀)	JAK1 4.4 (pIC ₅₀)	EGF-R 5.6 (pIC ₅₀)	Lck 5.0 (pIC ₅₀)
	CDK4	TGM2		

	5.0 (pIC ₅₀)	10 nM (IC ₅₀)
In Vitro	ZM39923 hydrochloride is a JAK3 inhibitor, with a pIC₅₀ of 7.1. ZM39923 (Compound 7) shows weak inhibitory effect on EGF-R and JAK1 (pIC₅₀, 5.6, 4.4, respectively), and insignificantly inhibits tyrosine kinases Lck and CDK4 (pIC₅₀ <5.0)^[1]. ZM39923 potently inhibits tissue transglutaminase (TGM2) with an IC₅₀ of 10 nM, and acts directly on purified TGM2 to inhibit the Ca²⁺ activated form of TGM2^[2]. ZM39923 blocks the phosphorylation of JAK3 induced by CCL19, and such an effect is similar to that of CCR7 antibody. ZM39923 also significantly blocks the CCL19 induced wound closure rate, and decreases the migration and invasion of PCI-37B cells^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

PROTOCOL

Cell Assay ^[3]

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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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.

Caution: Product has not been fully validated for medical applications. For research use only.

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