CCG-1423

Cat. No.: HY-13991

CAS No.: 285986-88-1

Molecular Formula: $C_{18}H_{13}ClF_6N_2O_3$

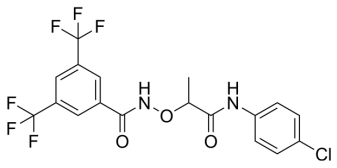
Molecular Weight: 454.75

Target: Ras; Apoptosis

Pathway: GPCR/G Protein; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (219.90 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1990 mL	10.9951 mL	21.9901 mL
5 mM	0.4398 mL	2.1990 mL	4.3980 mL
10 mM	0.2199 mL	1.0995 mL	2.1990 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 (5.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CCG-1423 is an inhibitor of Rho/MRTF/SRF pathway. CCG-1423 shows activities in several cancer cells. CCG-1423 is a promising lead compound for the development of novel pharmacologic tools, and it can be used for the research of cancer and diabetes[1][2][3].

IC_{50} & Target

IC50: 1.5 μM (Rho-pathway selective serum response element-luciferase reporter)[1]

In Vitro

CCG-1423 (10 μM; 24 h) affects invasion by cultured PC-3 cells into a Matrigel matrix and inhibits 54% mitochondrial metabolism of WST-1[1].

?CCG-1423 (0-100 μM; 24 h) inhibits RhoA and RhoC signaling pathways with an IC_{50} value of 1.5 μM for Rho-pathway selective serum response element-luciferase reporter[1].

?CCG-1423 (1 μM; 16 h) improves glucose uptake in both L6 cells and primary human myotubes[2].
?CCG-1423 (10 μM; 18-19 h) inhibits expression of Rho downstream[2].
?CCG-1423 (3 μM; 25 h) selectively stimulates apoptosis of RhoC-overexpressing melanoma cell line (A375M2) compared with the parental cell line (A375)[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Invasion Assay[1]

Cell Line:	PC-3 cell line
Concentration:	10 μM
Incubation Time:	24 hours
Result:	Inhibited 71% invasion by cultured PC-3 cells into a Matrigel matrix.

Western Blot Analysis[2]

Cell Line:	L6 myotubes
Concentration:	1 μM
Incubation Time:	48 hours
Result:	Increased insulin-stimulated Akt phosphorylation, blocked ERK phosphorylation, and increased IRS-1 tyrosine phosphorylation and its association with the p85 regulatory subunit of PI3K.

Cell Proliferation Assay[3]

Cell Line:	PC-3 cell line
Concentration:	0.3 μM
Incubation Time:	8 days
Result:	Inhibited growth of PC-3 prostate cancer cells with an IC_{50} value of 1 μM with 30 μM LPA adding.

Apoptosis Analysis[3]

Cell Line:	RhoC-overexpressing A375M2 and low RhoC-expressing A375 melanoma cell lines
Concentration:	3 μM
Incubation Time:	25 hours
Result:	Stimulated apoptosis of A375M2 cell line compared with the parental cell line.

In Vivo

CCG-1423 (0.15 mg/kg; i.p. once daily for two weeks) affects glucose tolerance and insulin levels in HFD-fed mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	16-week-old mice with HFD-induced obesity[1]
Dosage:	0.15 mg/kg
Administration:	Intraperitoneal injection; 0.15 mg/kg once per day; for two weeks
Result:	Improved glucose tolerance and reduced insulin levels at 30 minutes after glucose

	injection.

CUSTOMER VALIDATION

- Exp Mol Med. 2023 May 1
- Clin Transl Med. 2022 Jun;12(6):e850.
- Cell Biosci. 2021 Jan 28;11(1):25.
- Commun Biol. 2021 Mar 25;4(1):399.
- Cancers (Basel). 2020 Nov 27;12(12):3540.

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REFERENCES

[1]. Evelyn CR, et al. CCG-1423: a small-molecule inhibitor of RhoA transcriptional signaling. Mol Cancer Ther. 2007 Aug;6(8):2249-60.

[2]. Evelyn CR, et al. Design, synthesis and prostate cancer cell-based studies of analogs of the Rho/MKL1 transcriptional pathway inhibitor, CCG-1423. Bioorg Med Chem Lett. 2010 Jan 15;20(2):665-72.

[3]. Jin W, et al. Increased SRF transcriptional activity in human and mouse skeletal muscle is a signature of insulin resistance. J Clin Invest. 2011 Mar;121(3):918-29.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA