Web: www.taiclone.com
Tel: +886-2-2735-9682
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ZCL278

Catalog No: tcsc1731

Available Sizes

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
587841-73-4

Formula:
$C_{21}H_{19}BrClN_5O_4S_2$

Pathway:
GPCR/G Protein

Target:
Ras

Purity / Grade:
>98%

Solubility:
DMSO : 50 mg/mL (85.49 mM; Need ultrasonic)

Observed Molecular Weight:
584.89

Product Description

ZCL278 is a selective **Cdc42** modulator that directly binds to Cdc42 and inhibits its functions with $\mathbf{K_d}$ of 11.4 μM for Cdc42-ZCL278

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affinity in surface plasmon resonance (SPR) experiment.

IC50 & Target: Kd: 11.4 μM (Cdc42)[1]

In Vitro: ZCL278 as a potent, cell-permeable Cdc42-specific inhibitor that suppresses actin-based cellular functions, including Golgi organization and cell motility.In Swiss 3T3 fibroblast cultures, ZCL278 abolishes microspike formation and disrupted GM130-docked Golgi structures, two of the most prominent Cdc42-mediated subcellular events. ZCL278 reduces the perinuclear accumulation of active Cdc42 in contrast to NSC23766, a selective Rac inhibitor. ZCL278 suppresses Cdc42-mediated neuronal branching and growth cone dynamics as well as actin-based motility and migration in a metastatic prostate cancer cell line (i.e., PC-3) without disrupting cell viability[1]. ZCL278 inhibits Cdc42 function as an entry inhibitor for Junin virus (JUNV) and for vesicular stomatitis virus, lymphocytic choriomeningitis virus, and dengue virus but not for the nonenveloped poliovirus. In cells, ZCL278 is shown to efficiently inhibit chemically induced filopodium formation, a process dependent on Cdc42 activity. Dose-response experiments are first carried out in Vero cells, and while ZCL278 is not toxic at concentrations up to 200 μM, ZCL278 inhibits JUNV with IC_{50} of ~14 μM, as measured by flow cytometry[2].

In Vivo: ZCL278 reduces the JUNV RNA load in the spleen more than 33-fold, with JUNV RNA being undetectable in 5 out of 8 mice. These results are similar to those seen in Gabapentin-treated mice, demonstrating that ZCL278 can abrogate JUNV replication[2].