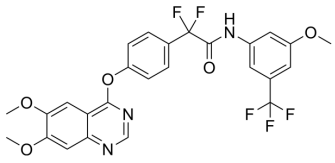
DCZ19931

Cat. No.:	HY-152087
CAS No.:	2789629-84-9
Molecular Formula:	$C_{26}H_{20}F_5N_3O_5$
Molecular Weight:	549.45
Target:	ERK; p38 MAPK
Pathway:	MAPK/ERK Pathway; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

DCZ19931 is a potent multi-targeting kinase inhibitor. DCZ19931 has anti-angiogenic effects on ocular neovascularization. DCZ19931 also inhibits ERK1/2-MAPK and p38-MAPK signaling[1].

IC_{50} & Target	ERK1	ERK2	p38 MAPK

In Vitro

DCZ19931 (1 nM-10 μM; 24 h) shows no obvious cytotoxicity against human umbilical vein endothelial cells (HUVECs)[1].
DCZ19931 (500 nM; 24 h) suppresses (10 ng/mL; 12 h) VEGF-induced proliferation, migration, and tube formation ability of endothelial cells[1].
DCZ19931 (500 nM; 24 h) inhibits vascular permeability via downregulation of ICAM-1 expression[1].
DCZ19931 (500 nM; 24 h) reduces the expression levels of p-ERK1/2, p-p38, and p-JNK in HUVECs[1].
DCZ19931 also shows anti-angiogenic effects in mouse choroidal sprouting assays[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Human umbilical vein endothelial cells (HUVECs)
Concentration:	500 nM; with or without 50 ng/mL VEGF for 30 min
Incubation Time:	24 hours
Result:	Decreased expression of phosphorylated ERK and phosphorylated p38.

In Vivo

DCZ19931 (1 μL, 1 μg/μL; intravitreal injection; single dose) inhibits ocular neovascularization in mice oxygen-induced retinopathy (OIR) model[1].
DCZ19931 (2 μL, 1 μg/μL; intravitreal injection; 7 d) has no tissue toxicity, and inhibits ocular neovascularization in mice with laser-induced choroidal neovascularization (CNV) model[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Laser-induced choroidal neovascularization (CNV) model in mice[1]
Dosage:	2 μL, 1 μg/μL
Administration:	Intravitreal injection; single dose, monitored for 7 d following laser photocoagulation

Result:	Did not cause marked histopathological changes in retinal structures. Decreased the areas of CNV lesions, showed anti-angiogenic effect in vivo.

Animal Model:	Oxygen-induced retinopathy (OIR) model in mice[1]
Dosage:	1 μL, 1 μg/μL
Administration:	Intravitreal injection; single dose
Result:	Further showed anti-angiogenic effect in vivo, inhibited ocular neovascularization.

REFERENCES

[1]. Zhang H, et al. DCZ19931, a novel multi-targeting kinase inhibitor, inhibits ocular neovascularization. Sci Rep. 2022 Dec 13;12(1):21539.

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