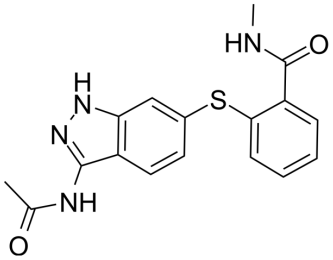
CPD-002

Cat. No.:	HY-163533
CAS No.:	2617376-08-4
Molecular Formula:	$C_{17}H_{16}N_4O_2S$
Molecular Weight:	340.4
Target:	VEGFR
Pathway:	Protein Tyrosine Kinase/RTK
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

CPD-002 is an inhibitor for vascular endothelial growth factor receptor 2 (VEGFR 2), that inhibits angiogenesis through inhibition of VEGFR2/PI3K/AKT signaling pathway. CPD-002 exhibits anti-inflammatory activity and attenuates rheumatoid arthritis[1].

In Vitro

CPD-002 (0-64 μM, 24-48 h) exhibits cytotoxicity for cells HUVECs and MH7A, in a dose-dependent manner[1].
CPD-002 (0-8 μM, 24 h) inhibits VEGF-induced cell migration and invasion of HUVECs, through suppression of F-actin expression, and chemotactic response to MH7A cell-released chemoattractants[1].
CPD-002 (0-8 μM) exhibits anti-inflammatory activity through inhibition of the inflammatory mediators like TNF-α, IL-1β, IL-6, IL-8, MMP2 and MMP9, and thus inhibits synovial angiogenesis[1].
CPD-002 (0-8 μM, 9 days) inhibits HUVECs tube formation and aortic ring sprout formation in ex vivo rat aortic ring assay[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HUVECs and MH7A
Concentration:	0-64 μM
Incubation Time:	24-48 h
Result:	Inhibited cell viability in a dose-dependent manner.

Cell Migration Assay [1]

Cell Line:	HUVECs
Concentration:	0-8 μM
Incubation Time:	24 h
Result:	Inhibited HUVECs migration in a dose-dependent manner.

In Vivo

CPD-002 (15-60 mg/kg, i.p., once daily for 14 days) exhibits anti-arthritic and anti-angiogenic effects in adjuvant-induced arthritisrats rats model[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	adjuvant-induced arthritis (AIA) Sprague Dawley rats models[1]
Dosage:	15-60 mg/kg
Administration:	i.p., once daily for 14 days
Result:	Ameliorated paw swelling, joint damage, and synovial angiogenesis.

REFERENCES

[1]. Jiang F, et al., CPD-002, a novel VEGFR2 inhibitor, relieves rheumatoid arthritis by reducing angiogenesis through the suppression of the VEGFR2/PI3K/AKT signaling pathway. Int Immunopharmacol. 2024 Apr 20;131:111850.

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