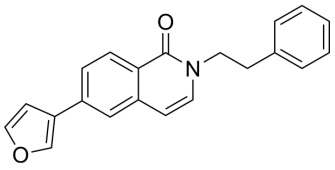
Anti-inflammatory agent 79

Cat. No.:	HY-163512
Molecular Formula:	$C_{21}H_{17}NO_2$
Molecular Weight:	315.37
Target:	HIF/HIF Prolyl-Hydroxylase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Anti-inflammatory agent 79 (compound 17q) is an isoquinolinone derivative-based HIF-1 inhibitor (IC_{50}: 0.55 μM), which can effectively block HIF-1 signals and increase HIF- Degradation of 1α. Anti-inflammatory agent 79 inhibits synovial invasion and migration and inhibits angiogenesis. Anti-inflammatory agent 79 also effectively reduced foot swelling and arthritis in a mouse inflammation model, and down-regulated the levels of inflammatory factors and blood vessel proliferation in the body.[13][1].

IC_{50} & Target

HIF-1α
.55 μM (IC_{50}, [1])

In Vitro

Anti-inflammatory agent 79 (2.5-10 μM; 24 h) can concentration-dependently block hypoxia-induced HIF-1α protein accumulation, reduce inflammatory response, inhibit cell invasiveness and promote VHL-dependent HIF-1α degradation in human RA synovial cell lines[1].

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

Western Blot Analysis[1]

Cell Line:	MH7A cells
Concentration:	2.5 μM, 5 μM, 10 μM
Incubation Time:	24 h
Result:	Decreased the protein level of HIF-1α Decreased the secretion of cytokines, including IL-1β, IL-6 and TNF-α.

In Vivo

Anti-inflammatory agent 79 (30 mg/kg, 60 mg/kg; ip; once every 2 days for 16 days) improved pathological damage to the ankle joint and reduced vascularity in a rat model of adjuvant-induced arthritis (AIA) Generate and weaken inflammatory response[1].

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Animal Model:	Adjuvant-induced arthritic (AIA) model in SD rats[1]
Dosage:	30 mg/kg, 60 mg/kg

Administration:	ip; once per two days; from 13 to 29 days after CFA injection (vehicle: 5 % ethanol and 5 % cremophor EL in FBS)
Result:	Attenuated the development and severity of arthritis Significantly decreased the HIF-1α expression and the percentage of HIF-1α positive cells.

REFERENCES

[1]. Cai L, et al. Discovery of novel diaryl substituted isoquinolin-1(2H)-one derivatives as hypoxia-inducible factor-1 signaling inhibitors for the treatment of rheumatoid arthritis. Eur J Med Chem. 2024 Apr 16;271:116417.

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