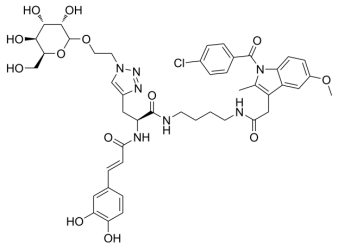
MCI

Cat. No.:	HY-155031
Molecular Formula:	$C_{45}H_{52}ClN_7O_{13}$
Molecular Weight:	934.39
Target:	Reactive Oxygen Species; COX
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MCI alleviates inflammation by macrophage reprogramming via targeting ROS scavenging and COX-2 downregulation. MCI inhibits COX-2 with an IC_{50} value of 1.23 μM. MCI has significant anti-inflammatory effects in collagen-induced arthritis (CIA) models. MCI can be used in research for rheumatoid arthritis (RA)[1].

IC_{50} & Target

COX-2
1.23 μM (IC_{50})

In Vitro

MCI (8 μM, 2 h) inhibits ROS production and COX-2 expression results in the phenotypic transition of macrophages from the M1 state to the M2 state in the LPS-stimulated RAW 264.7 cells[1].

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

Immunofluorescence[1]

Cell Line:	LPS-stimulated RAW 264.7 cell
Concentration:	8 μM
Incubation Time:	2 h
Result:	Inhibited the level of NF-κB p65 in the nuclei. Increased the level of CD163.

Western Blot Analysis[1]

Cell Line:	LPS-stimulated RAW 264.7 cell
Concentration:	8 μM
Incubation Time:	2 h
Result:	Inhibited COX-2 and iNOS expression. Increased arginase-1 (Arg-1) expression.

In Vivo

MCI (1.05 mg/kg, intraarticularly injection, once every three days for 18 days) prevents the progression of RA and has significant anti-inflammatory effects[1].

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

Animal Model:	Collagen-induced arthritis (CIA) models with BALB/c mice[1]
Dosage:	1.05 mg/kg, once every three days for 18 days
Administration:	Intraarticularly injection
Result:	Reduced the average ankle thickness and clinical index. Reduced cartilage damage and essentially intact like that of healthy mice.

REFERENCES

[1]. Luo X, et al. Macrophage Reprogramming via Targeted ROS Scavenging and COX-2 Downregulation for Alleviating Inflammation. Bioconjug Chem. 2023 Jul 19;34(7):1316-1326.

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