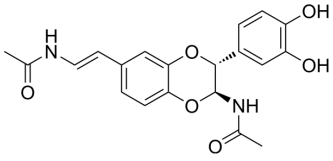
N-Acetyldopamine dimer-2

Cat. No.:	HY-N10638
CAS No.:	916888-49-8
Molecular Formula:	$C_{20}H_{20}N_2O_6$
Molecular Weight:	384.38
Target:	Reactive Oxygen Species; NF-κB
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

N-Acetyldopamine dimer-2 (compound 2) is a N-acetyldopamine dimer that can be isolated from the yellow powder form Periostracum Cicadae with antioxidant and anti-inflammatory activities. N-Acetyldopamine dimer-2 inhibits oxidized low-density lipoprotein (LDL) oxidation, ROS generation, NO production, and NF-κB activity[1].

IC_{50} & Target

IC50: 1.5 μM (copper-mediated LDL oxidation), 2.7 μM (AAPH-mediated LDL oxidation), 1.6 μM (SIN-1-mediated LDL oxidation)[1]

In Vitro

N-Acetyldopamine dimer-2 inhibits copper-mediated, 2,2'azobis(2-amidinopropane) hydrochloride (AAPH)-mediated, and 3-morpholinosydnonimine (SIN)-1-mediated LDL oxidation with IC_{50} values of 1.5, 2.7 and 1.6 μM, respectively[1].

N-Acetyldopamine dimer-2 (100 μM; 40 min) shows strong radical scavenging capacity[1].

N-Acetyldopamine dimer-2 (0-400 μM; 2 h) dose-dependently reduces the ROS level in lipopolysaccharide (LPS)-stimulated RAW264.7 cells[1].

N-Acetyldopamine dimer-2 (0-400 μM; 2 h) dose-dependently and slightly decreases the NO production and iNOS protein expression in LPS-stimulated RAW264.7 cells[1].

N-Acetyldopamine dimer-2 (0-400 μM; 2 h) decreases the mRNA levels of IL-6, TNF-α, and COX-2 and dose-dependently inhibits secretion of IL-6, and inhibits the LPS-induced NF-κB activation in RAW264.7 cells[1].

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

Western Blot Analysis[1]

Cell Line:	LPS-stimulated RAW264.7 cell line
Concentration:	200 and 400 μM
Incubation Time:	2 hours
Result:	Slightly decreased iNOS protein expression in LPS-stimulated RAW264.7 cells.

Western Blot Analysis[1]

Cell Line:	LPS-stimulated RAW264.7 cell line
Concentration:	200 and 400 μM
Incubation Time:	2 hours

Result:	Dose-dependently decreased the mRNA levels of IL-6, TNF-α and COX-2.

REFERENCES

[1]. Xu MZ, et al. Antioxidant and anti-inflammatory activities of N-acetyldopamine dimers from Periostracum Cicadae. Bioorg Med Chem. 2006 Dec 1;14(23):7826-34.

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