Hydrangenol

Cat. No.: HY-N4028

CAS No.: 480-47-7

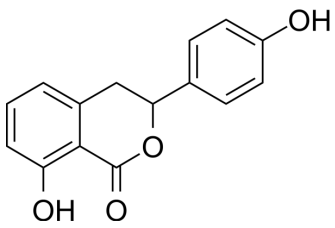
Molecular Formula: $C_{15}H_{12}O_4$

Molecular Weight: 256.25

Target: MMP; COX; Interleukin Related; p38 MAPK; ERK; Keap1-Nrf2

Pathway: Metabolic Enzyme/Protease; Immunology/Inflammation; MAPK/ERK Pathway; Stem Cell/Wnt; NF-κB

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Hydrangenol is an orally active antiphotoaging compound. It can be isolated from Hydrangea serrata leaves. Hydrangenol prevents wrinkle formation by reducing MMP and inflammatory cytokine expression and increasing moisturizing factors and antioxidant genes level[1].

IC_{50} & Target	MMP-1	MMP-3	COX-2	IL-6

In Vivo

Hydrangenol (5-40 mg/kg; p.o.; daily for 7 weeks) mitigated wrinkle formation, dorsal thickness, dehydration, and collagen degradation in UVB-irradiated HR-1 hairless mice[1].

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

Animal Model:	UVB-irradiated HR-1 hairless mice[1]
Dosage:	5, 10, 20, or 40 mg/kg
Administration:	Oral gavage; daily for 7 weeks
Result:	Increased the expression of involucrin, filaggrin, and aquaporin-3 (AQP3) as well as hyaluronic acid (HA) production via hyaluronidase (HYAL)-1/-2 downregulation. Increased the expression of Pro-COL1A1. Decreased the expression matrix metalloproteinase (MMP)-1/-3, cyclooxygenase-2 (COX-2), and interleukin-6 (IL-6). Attenuated the phosphorylation of mitogen-activated protein kinases (MAPKs) including ERK and p38, activator protein 1 (AP-1) subunit, and signal transduction and activation of transcription 1 (STAT1). Upregulated the expression of nuclear factor-E2-related factor 2 (Nrf2), heme oxygenase-1 (HO-1), NAD(P)H quinone dehydrogenase 1 (NQO-1), glutamate cysteine ligase modifier subunit (GCLM), and glutamate cysteine ligase catalysis subunit (GCLC).

REFERENCES

[1]. Myung DB, et al. Hydrangenol Isolated from the Leaves of Hydrangea serrata Attenuates Wrinkle Formation and Repairs Skin Moisture in UVB-Irradiated Hairless Mice. Nutrients. 2019 Oct 2;11(10):2354.

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