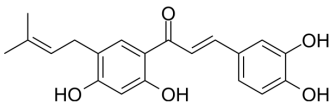
Broussochalcone A

Cat. No.:	HY-142125
CAS No.:	99217-68-2
Molecular Formula:	$C_{20}H_{20}O_5$
Molecular Weight:	340.37
Target:	Reactive Oxygen Species; Apoptosis; Xanthine Oxidase
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Broussochalcone A is an antioxidant and an inhibitor of Xanthine Oxidase (IC_{50}=2.21 μM), with free radical scavenging activity. Broussochalcone A inhibits iron-induced lipid peroxidation and nitric oxide synthesis in lipopolysaccharide (LPS) - activated macrophages. Broussochalcone A also induces Apoptosis of human renal carcinoma cells by increasing ROS levels and activating FOXO3 signaling pathways[1][2].

In Vitro

Broussochalcone A (0.3, 1, and 3 μM; 10 min, Fe induction for another 30 min) inhibits Fe^{2+} (200 μM)-induced lipid peroxidation in rat brain homogenate[1].
Broussochalcone A (1-30 μM; 30 min) increases DPPH (100 μM)-scavenging activity dose-dependently[1].
Broussochalcone A (0.1-1 μM) inhibits cytochrome c reduction with an IC50 value of 0.5 μM, mostly due to its superoxide anion-scavenging activity and only partially to its inhibition of xanthine oxidase activity[1].
Broussochalcone A (1-20 μM; 24 h) inhibits nitrite production and iNOS protein expression[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	LPS-activated RAW 264.7 macrophages
Concentration:	1 μM, 3 μM, 10 μM, 20 μM
Incubation Time:	30 min; then stimulated by LPS (1 μg/mL) for another 24 hr
Result:	Caused inhibition of iNOS protein expression dose-dependently. Inhibited IkBα phosphorylation.

REFERENCES

[1]. Cheng Z, et al. Broussochalcone A, a potent antioxidant and effective suppressor of inducible nitric oxide synthase in lipopolysaccharide-activated macrophages. Biochem Pharmacol. 2001 Apr 15;61(8):939-46.

[2]. Lee HK, et al. Broussochalcone A Induces Apoptosis in Human Renal Cancer Cells via ROS Level Elevation and Activation of FOXO3 Signaling Pathway. Oxid Med Cell Longev. 2021 Oct 27;2021:2800706.

Caution: Product has not been fully validated for medical applications. For research use only.

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