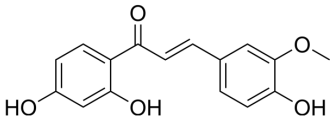
Homobutein

Cat. No.:	HY-N8707
CAS No.:	34000-39-0
Molecular Formula:	$C_{16}H_{14}O_5$
Molecular Weight:	286.28
Target:	Parasite; HDAC; NF-κB
Pathway:	Anti-infection; Cell Cycle/DNA Damage; Epigenetics; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Homobutein a natural chalcones (can be found in many medicinal plants, fruits, vegetables, spices and nuts), is a potent HDACs/NF-κB dual inhibitor with IC_{50}s of 190 and 38 μM, respectively. Homobutein also a chelator of iron (II and III) cations, shows various activities, including anticancer, anti-inflammatory, antiparasite and antioxidation[1][2][3][4].

IC_{50} & Target	Toxoplasma	Toxoplasma

In Vitro

Homobutein (compound 15) (20, 24, 28, 32, 40 μM; 2 h) inhibits the viability of K562 cells[1].
Homobutein (2 h) inhibits TNFα-induced NF-κB activity in K562 cells[1].
Homobutein (1 μg/mL; 72 h) inhibits the growth of Toxoplasma gondii by 19.48%[2].
Homobutein (24 h) againsts W2 and D6 strains of P.falciparum with IC_{50}s of 15.0 and 16.1 μM, respectively[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	K562 cells
Concentration:	20, 24, 28, 32, 40 μM
Incubation Time:	2 h
Result:	Showed inhibition of viability in K562 cells.

Cell Viability Assay[2]

Cell Line:	Toxoplasma gondii RH-2F strain
Concentration:	1 μg/mL
Incubation Time:	72 h
Result:	Surpressed 19.48% of the Toxoplasma gondii.

REFERENCES

[1]. Orlikova B, et al. Natural chalcones as dual inhibitors of HDACs and NF-κB. Oncol Rep. 2012 Sep;28(3):797-805.

[2]. Adeyemi OS, et al. In Vitro Screening to Identify Anti-Toxoplasma Compounds and In Silico Modeling for Bioactivities and Toxicity. Yale J Biol Med. 2019 Sep 20;92(3):369-383.

[3]. Yenesew A, et al. Anti-plasmodial flavonoids from the stem bark of Erythrina abyssinica. Phytochemistry. 2004 Nov;65(22):3029-32.

[4]. Serobatse K, et al. Antioxidant and antimalarial properties of butein and homobutein based on their ability to chelate iron (II and III) cations: a DFT study in vacuo and in solution. European Food Research and Technology, 2016, 242(1): 71-90.

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