(E)-Naringenin chalcone

Cat. No.: HY-N3007A

CAS No.: 25515-46-2

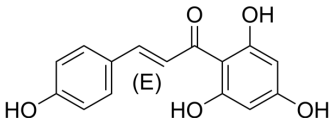
Molecular Formula: $C_{15}H_{12}O_5$

Molecular Weight: 272.25

Target: Others

Pathway: Others

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



BIOLOGICAL ACTIVITY

Description

(E)-Naringenin chalcone is an orally active anti-allergic agent. (E)-Naringenin chalcone also has antioxidant, anti-inflammatory activities. (E)-Naringenin chalcone can improve adipocyte functions. (E)-Naringenin chalcone inhibits histamine release from rat peritoneal mast cell[1][2][4].

In Vitro

(E)-Naringenin chalcone (25-125 μg/mL, 10 min) inhibits histamine release from rat peritoneal mast cells, with an IC_{50} value of 68 μg/mL[1].

(E)-Naringenin chalcone (25-50 μM, 8 days) improves adipocyte (3T3-L1) functions by enhancing adiponectin production[2].

(E)-Naringenin chalcone (25-100 μM, 24 h) stimulates the activity of PPARγ in NIH-3T3 cells[2].

(E)-Naringenin chalcone (0-200 μM 24 h) inhibits the production of TNF-alpha, MCP-1, and nitric oxide (NO) by LPS-stimulated RAW 264 macrophages[4].

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

RT-PCR[2]

Cell Line:	3T3-L1 adipocytes
Concentration:	25-100 μM
Incubation Time:	8 days
Result:	Increased adiponectin mRNA levels up to 8.0-fold in a dose-dependent manner.

Western Blot Analysis[4]

Cell Line:	RAW 264 macrophages
Concentration:	0,25, 50, 100, 200 μM
Incubation Time:	24 h
Result:	Suppressed the degradation of IκB-α.

In Vivo

(E)-Naringenin chalcone (0.8 mg/kg, oral administration) shows anti-allergic effect in type I allergic mice[1].

(E)-Naringenin chalcone (0.8 mg/kg, oral administration) suppresses allergic asthma by inhibiting the type-2 function of CD4 T cells in allergic airway inflammatory mice[3].

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

Animal Model:	Mouse type I allergic model[1]
Dosage:	0.8 mg/kg
Administration:	Oral administration
Result:	Inhibited the ear-swelling response, with the inhibitory ratio of 46.7%.

Animal Model:	Allergic airway inflammation induced in mice[3]
Dosage:	0.8 mg/kg
Administration:	Oral administration, daily
Result:	Decreased cell numbers of the infiltrating leukocyte and eosinophils. Decreased Muc5ac and gob-5 expression in the lungs.

REFERENCES

[1]. Taichi Yamamoto, et al. Anti-allergic activity of naringenin chalcone from a tomato skin extract. Biosci Biotechnol Biochem. 2004 Aug;68(8):1706-11.

[2]. Taro Horiba, et al. Naringenin chalcone improves adipocyte functions by enhancing adiponectin production. Mol Cell Endocrinol. 2010 Jul 29;323(2):208-14.

[3]. Chiaki Iwamura, et al. Naringenin chalcone suppresses allergic asthma by inhibiting the type-2 function of CD4 T cells. Allergol Int. 2010 Mar;59(1):67-73.

[4]. Shizuka Hirai, et al. Inhibitory effect of naringenin chalcone on inflammatory changes in the interaction between adipocytes and macrophages. Life Sci. 2007 Sep 29;81(16):1272-9.

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