Eudebeiolide B

Cat. No.: HY-N11775

CAS No.: 1934299-51-0

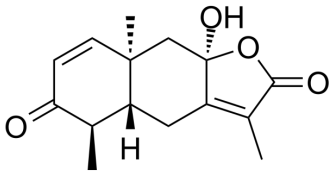
Molecular Formula: $C_{15}H_{18}O_4$

Molecular Weight: 262.3

Target: NF-κB; Akt; Nuclear Factor of activated T Cells (NFAT); Phosphatase

Pathway: NF-κB; PI3K/Akt/mTOR; Immunology/Inflammation; Metabolic Enzyme/Protease

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



BIOLOGICAL ACTIVITY

Description

Eudebeiolide B is a compound that can be isolated from Salvia plebeia R. Br. Eudebeiolide B inhibits osteoclastogenesis by regulating RANKL-induced NF-κB, c-Fos and calcium signaling. Eudebeiolide B can be used for osteoclast-related diseases research[1].

IC_{50} & Target	Akt	NF-κB

In Vitro

Eudebeiolide B (1-30 μM, 1 hour) suppresses RANKL-induced osteoclast differentiation and function in mouse bone marrow macrophages (BMMs)[1].

Eudebeiolide B (1-30 μM, 1 hour) inhibits the expression of osteoclastogenesis-related marker genes and RANKL-mediated cellular signaling [1].

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

Cell Differentiation Assay[1]

Cell Line:	Bone marrow macrophages (BMMs)
Concentration:	1-30 μM
Incubation Time:	1 hours
Result:	Inhibited RANKL-induced osteoclast differentiation of BMMs, bone resorption, and promotes osteoblast differentiation.

RT-PCR[1]

Cell Line:	Bone marrow macrophages (BMMs), MC3T3-E1 cells
Concentration:	10 μM
Incubation Time:	1 hours
Result:	Downregulated the expression of NFATc1 and c-fos, transcription factors induced by RANKL. Attenuated the RANKL-induced expression of osteoclastogenesis-related genes, including Ctsk, MMP9 and DC-STAMP. Induced the expression of alkaline phosphatase (ALP) and calcium accumulation during

	MC3T3-E1 osteoblast differentiation.

Western Blot Analysis[1]

Cell Line:	Bone marrow macrophages (BMMs)
Concentration:	10 μM
Incubation Time:	1 hours
Result:	Inhibited the phosphorylation of Akt and NF-κB p65. Downregulated the expression of CREB, Btk and phospholipase PLCγ2 in RANKL-induced calcium signaling.

In Vivo

Eudebeiolide B (5 or 10 mg/kg, i.g., once daily for 6 weeks) prevents OVX-induced bone loss in an ovariectomized (OVX) mouse model[1].

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

Animal Model:	Ovariectomized (OVX) mouse model[1]
Dosage:	5 or 10 mg/kg
Administration:	After 6 weeks of ovarian resection, intragastric injection (i.g.) once daily for 6 weeks.
Result:	Prevented bone mineral density (BMD) loss and bone mineral content (BMC) loss compared to the OVX mice.

REFERENCES

[1]. Kim MH,et.al. Eudebeiolide B Inhibits Osteoclastogenesis and Prevents Ovariectomy-Induced Bone Loss by Regulating RANKL-Induced NF-κB, c-Fos and Calcium Signaling. Pharmaceuticals (Basel). 2020 Dec 16;13(12):468.

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