LXRβ agonist-4

Cat. No.: HY-152262

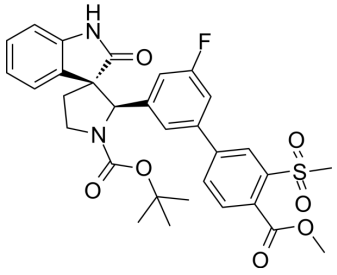
Molecular Formula: $C_{31}H_{31}FN_2O_7S$

Molecular Weight: 594.65

Target: LXR

Pathway: Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor

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



BIOLOGICAL ACTIVITY

Description

LXRβ agonist-4 is a potent, orally active Liver X receptors (LXRs) agonist with an IC_{50} value of 0.0078 μM for LXRβ. LXRβ agonist-4 inhibits RANKL-induced osteoclast differentiation and bone resorption. LXRβ agonist-4 can be used in research of osteoporosis[1].

IC_{50} & Target

EC50: 7.8 nM (LXRβ)[1]

In Vitro

LXRβ agonist-4 (compound B9; 0.03-10 μM) inhibits RANKL-induced osteoclastogenesis and bone resorption[1].
LXRβ agonist-4 (1 μM; 0-24 h) regulates osteoclast relative gene expression and downstream of the LXR[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Osteoclast
Concentration:	1 μM
Incubation Time:	0, 2, 4, 6, 12, and 24 hours
Result:	Increased ABCG1 protein and decreased LDLR protein levels.

In Vivo

LXRβ agonist-4 (compound B9; 10 mg/kg; i.g.) inhibits bone loss in ovariectomized female C57BL/6 mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	female C57BL/6 mice (20-25 g; 8 week old)[1]
Dosage:	10 mg/kg
Administration:	oral gavage; daily, for 4 weeks
Result:	Reduced ovariectomy-induced bone resorption. Protected against OVX-induced bone loss by inhibiting the osteoclast number and activity.

REFERENCES

[1]. Chen H, et, al. Discovery of Spiro[pyrrolidine-3,3'-oxindole] LXRβ Agonists for the Treatment of Osteoporosis. J Med Chem. 2023 Jan 12;66(1):752-765.

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