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Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-osteoporosis agent-8

Cat. No.: HY-158311

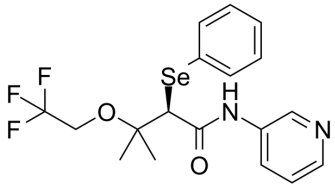
Molecular Formula: $C_{18}H_{19}F_3N_2O_2Se$

Molecular Weight: 431.31

Target: RANKL/RANK; p38 MAPK; NF-κB

Pathway: NF-κB; MAPK/ERK Pathway

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



BIOLOGICAL ACTIVITY

Description

Anti-osteoporosis agent-8 (Compound 4aa) is an inhibitor for RANKL, which inhibits RANKL-induced osteoclastogenesis and osteoclast differentiation (IC_{50} is 2.41 μM) in cells RAW264.7. Anti-osteoporosis agent-8 ameliorates bone loss in an ovariectomized (OVX) mice model[1].

In Vitro

Anti-osteoporosis agent-8 (0-10 μM, 5 days) promotes osteoblast differentiation in cells MC3T3-E1 through activation of BMP2 signaling pathway[1].

Anti-osteoporosis agent-8 (5 μM, 6 h) inhibits the osteoclast-related genes expression, osteoclastogenesis, and osteoclastic bone resorption, though inhibition of MAPK and NF-κB-signaling pathway[1].

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

Western Blot Analysis[1]

Cell Line:	BMMS
Concentration:	5 μM
Incubation Time:	6 h
Result:	Inhibited phosphorylation of p38, ERK, JNK, p65 and IκBα.

Real Time qPCR[1]

Cell Line:	MC3T3-E1
Concentration:	0-10 μM
Incubation Time:	5 days
Result:	Promoted expression of BMP2, Runx2 and Smad.

In Vivo

Anti-osteoporosis agent-8 (10 mg/kg, i.p., every 2 days for 8 weeks) prevents the ovariectomization induced bone loss in C57BL/6 mice model[1].

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

Animal Model:	ovariectomized C57BL/6 mice model[1]
Dosage:	10 mg/kg
Administration:	i.p., every other days, for 8 weeks
Result:	Reduced the bone loss, increased bone volume/total bone volume, trabecular thickness and trabecular number, without significant toxicity in mainly organs.

REFERENCES

[1]. Wu Y, et al., Design, Synthesis, and Biological Evaluation of β-Trifluoroethoxydimethyl Selenides as Potent Antiosteoporosis Agents. J Med Chem. 2024 May 9;67(9):7585-7602.

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